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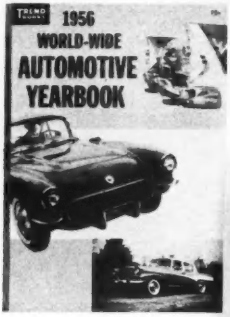

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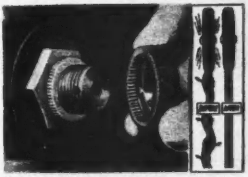

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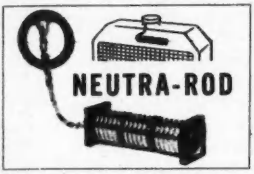

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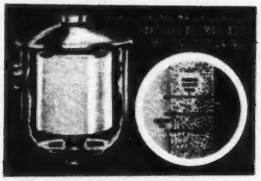

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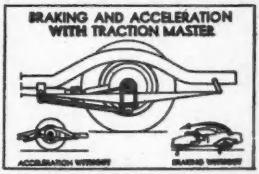

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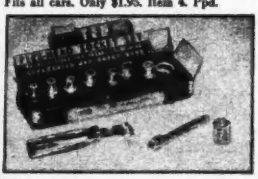

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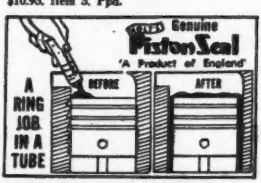

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BENCH RACIN' WITH ... RACER BROWN

PHONY STOCK RATINGS?

NOT LONG AGO, I had the opportunity to check the power output of a new car that should surely have been one of the best performing of the entire 1956 production year. This check was made on a chassis dynamometer and was, frankly, a disappointment. I, like thousands of others who have read the glowing advertisements of power and speed, expected something quite sensational, but the results were strictly sub-average, all things considered. Actual road and drag strip performance was merely mediocre.

It happened that the advertised brake horsepower rating of the engine in question was in excess of 270, yet the power that actually reached the pavement was only slightly over 130, a loss of some 52%. This compelled me to do some investigating. The results were somewhat discouraging, but should be of interest to those who wonder where all the power goes.

The engine test procedure most commonly used by the manufacturers allows the following variations from "as installed" conditions: Stock exhaust manifolds must be used, but without exhaust pipes, mufflers, tailpipes and crossover pipes; no fan will be used; generator will be rotating but not charging; no air cleaner will be used, except when best power is obtained with an air cleaner; carburetor heat will be blocked off; fuel/air mixture will be adjusted to produce best power *at each rpm check;* spark will be normally adjusted to produce best power *at each rpm checked;* all data will be corrected for a temperature of 60 degrees F. and barometric air pressure of 29.92 inches of mercury. Of course, these conditions make mandatory the use of the engine's fuel, oil and water pumps, but precludes other power-consuming accessories. Assume for the sake of argument, that after the above requirements are met and correction factors made, the engine produces 275 brake horsepower. In the "as installed" condition,

(Continued on page 64)

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cover

About the only place George Cerny's '50 Plymouth wagon you see up front is ever caught resting is in an auto show or on the starting line at a drag strip. Most of the time it's being pushed around rapidly by a full house Cadillac engine. How does 99 in the quarter sound? See page 10.

Ektachrome by Bob D'Olivo

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Words From The Editor

ANYBODY FOR STATION WAGONS? We have them this month. Since the manufacturers started leaving the wooden sides off, the wagon has become another car body that the boys can bend into new shapes. In the old days, it took a cabinet maker to get the job done but no more. Thumb back through the pages of this issue, you'll see how that left fielder of the custom and hot rod game has finally come up to the plate and started spraying hits in all directions.

Also tucked back in the middle of the book is an article which is going to answer the question that a lot of Chevrolet owners have been asking. The new V8 doesn't take the place of its six cylinder cousin without a medium sized amount of genuine hassle. So, we used a half dozen pages of pictures to give you a pretty good idea of what you are up against.

As for the rest of the articles, take a look, someplace in there is one or more that will look *you* right in the eye and come up with honest answers. Future issues will continue to be slanted in the direction of the do-it-yourself reader who doesn't mind getting a little greasy to save money. Mechanical coverage will hit a wide range of makes and models. We're going to give out handy hints to the guy that's building a hot rod out of an early vintage roadster as well as to the guy that's taking the chrome off one of the '56 bombs. If you are in the middle of this group, you're luckier yet because that is where the two overlap. You'll get the scoop on customizing plus you'll get clued in on engine switches and modifications.

That questionnaire we used in one of the issues last fall has given us a lot of ideas and the mail has given us some more. Probably the most satisfying and surprising thing the questionnaire revealed to us was when we checked the answers to the last question on the list. That question asked "What type of stories not featured would you like to see featured in Car Craft?" We got a big spread of answers on that one but well over 50 percent didn't name a specific topic, they just told us to keep them coming like they were. So, we're going to try to take care of everybody. We'll keep pleasing the ones who like what we print and we'll try our darndest to work through that list of special requests. We just don't plan on losing any customers, especially *you*.

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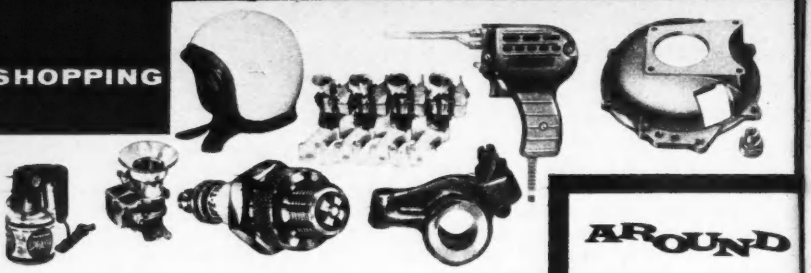

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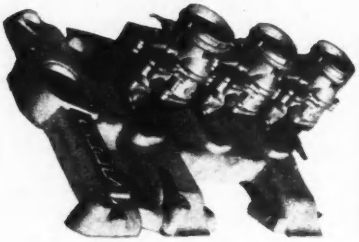
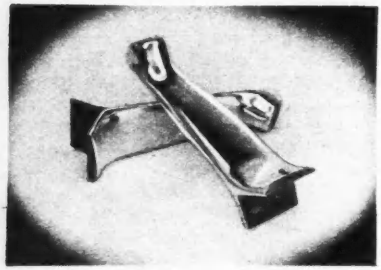
Evans Speed Equipment is back with a *new* Oldsmobile V8 carburetor manifold for competition or street use (not suitable for Hydra-Matic). Uses either Ford-Holly 2 throat carburetors or Stromberg 81's, 48's, 97's, cast from the finest heat treated aluminum available. Attractive sandblast finish $74.50. Write Evans Speed Equipment Co., 2550 N. Seaman Ave., El Monte, California.





HEAD-LITE BRACKETS

For Sportscars and roadsters, are these aluminum head-lite brackets, already drilled for headlight mounting and polished to a very high lustre. Brackets are not drilled where they fasten to frame rails, due to owners wishing to use holes previously in frame. When mounted, brackets stand at a 45 degree angle. Priced per pair $10.50. Write: Moon Automotive, Box 432, Santa Fe Springs, Calif.

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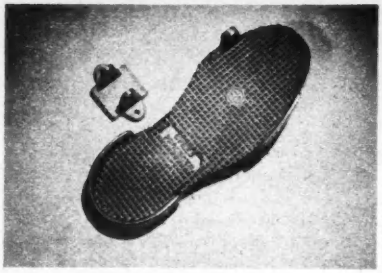

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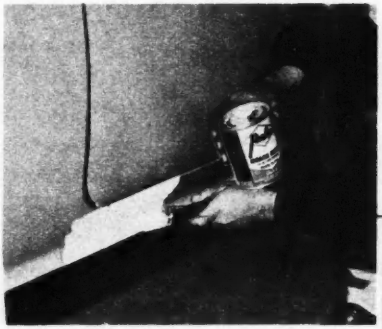

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New Miracle Metal cold setting body solder bonds perfectly to stainless and aluminum as well as to steel, will not check, crack or separate from the metal. Miracle Metal is lightweight, ideal for filling large dents or holes in any auto panel. Ideal for refinishing, it will have wide application in body repair work. Miracle Metal is supplied by the Park Chemical Co., 8074 Military Ave., Detroit 4, Michigan.

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SALTY CUSTOM

Dear Sirs:

I have been reading and enjoying your wonderful magazine for about a year now and find it tops for custom magazines. While stationed here in San Francisco with the Navy, I became very interested in custom cars and looked to your magazine for ideas. Below are some of the changes made in my 1950 Ford Tudor:

1. A 1954 Pontiac center bar has been put into the grille work.
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3. Dual pipes were installed with 1 Hollywood Deep-tone Muffler and 1 Hollywood Smithy Muffler.

4. Hood and rear-deck have been dechromed and filled in.
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6. All bumper guards have been removed to give the bumper a clean look.
7. Dual aerials have been installed on the rear fenders.
8. Custom rims have been installed around the headlights to give them a frenched in look.
9. Rear deck is operated by electric switch button.
10. Front parking lights have been removed and holes filled in.

11. The car is topped off with a jet black paint job.

Later I plan to install a custom motor with plenty of go power. I am hoping that you will put these two pictures of my car in your magazine. I remain a faithful reader of the best custom magazine in the business.

Donald Ray Chisum, Yn3
San Francisco, California

And we remain a custom magazine with the best readers in the business.—Ed.

TWIN EFFORTS GIVES RESULTS

Dear Sir:

We are writing to tell you how enthusiastic we are about your magazine and articles. We have used your ideas quite a bit on all of our cars. Enclosed is a picture of our '32 Ford coupe, on which all the work done since stock, has been done by my twin brother and myself. It has been channeled nine inches, has a '39 Ford transmission and rear-end, a '52 Merc engine which has been ported and relieved and dual Fenton manifold.

We are also working on customizing a '50 Ford coupe in which we plan to install a '52 Olds engine.

Your magazine is great, keep sending us the good tips.

Yours sincerely,
Ronnie and Donnie Smith
Odessa, Texas

Probably the best thing about being in the magazine business is when we get letters like yours telling us that our stories have been put to practical use. Keep us informed on how the '50 turns out.—Ed.

THIS MODEL IS GETTING RARE

Dear Sirs:

Enclosed is a photo of my '37 Ford tudor. The hood and deck have been filled, '46 Ford taillights frenched low on the fenders and the rear end has been lowered four inches. Ten coats of metallic '55 Ford Regency purple cover the exterior.

The engine is '38 Ford with the only mod-

ification to date being dual exhausts. I've now begun work on the interior, having completed a chrome and purple dash plus a white steering wheel with white plastic upholstery soon to follow.

Thanks loads for the terrific magazine. I especially appreciate the do-it-yourself articles.

Respectfully yours,
Jerry Kembel
Portland, Oregon

Guess we're getting old because it seems like only yesterday the streets were full of '37 Fords. Yours is the first to show up in the mail for quite a while and it's a good one. Thanks.—Ed.

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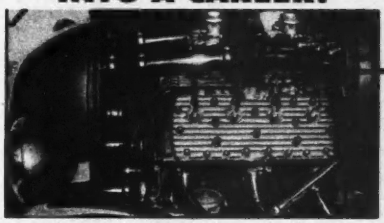

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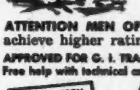

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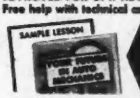

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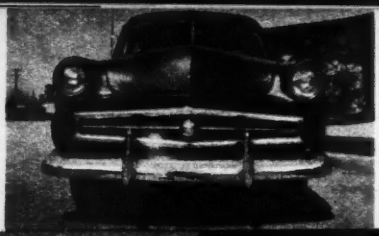
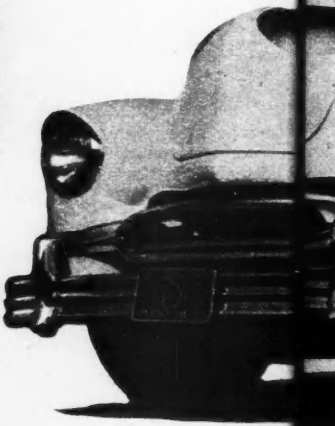
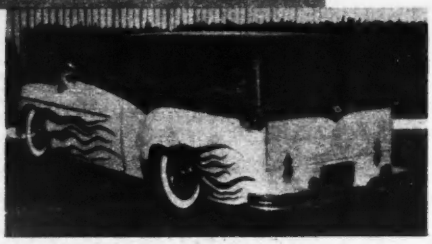


Restyled WAGONS

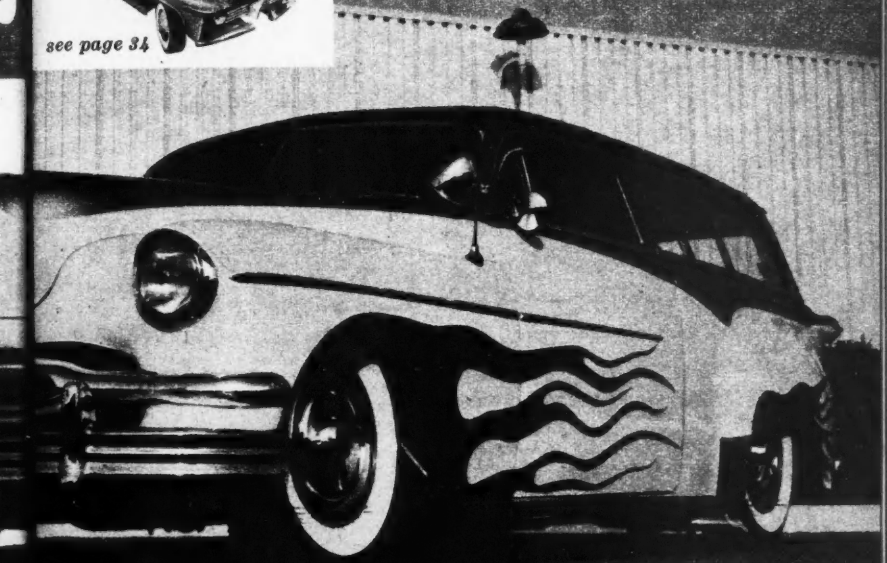




COVER CAR

rolling from the portals of body shops everywhere is a new addition to the modern day custom fraternity. A new breed indeed is this latest concept of the custom car— but basically, a practical and everyday servant

see page 34



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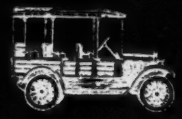
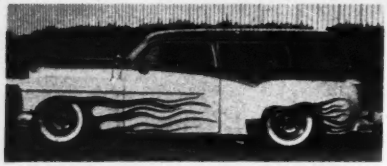
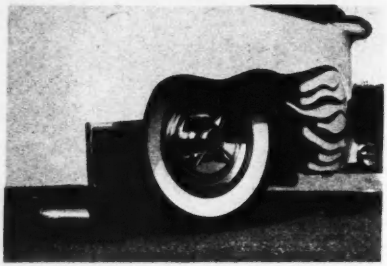
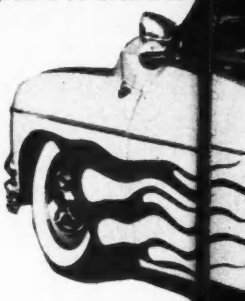
Restyled  WAGONS



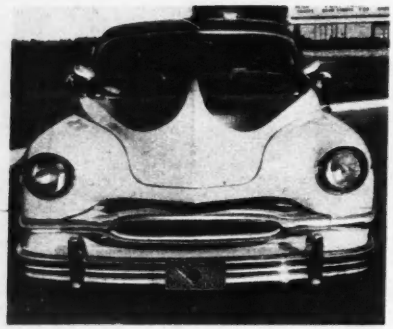
The wagon's elaborate paint job is a combination of purple and light yellow colors. Dividing the two-tone pattern is side trim from a '55 Dodge Lancer. Forward fender and door trim is from a '50 Chevrolet.



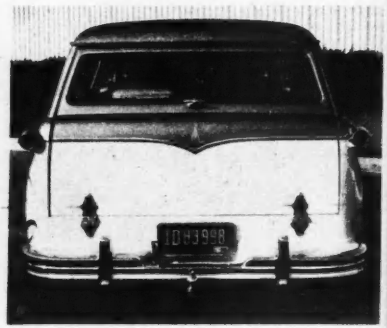
Rear fender seams have been filled into the body. Taillight housings go as far back as '36 Dodge, but rims and lenses are from '55 Dodge Lancer. Note exhaust tips.



The suburban's stock proportions have been altered extensively with a 4-inch swath removed from top and a lowering job that totals another full four inches.



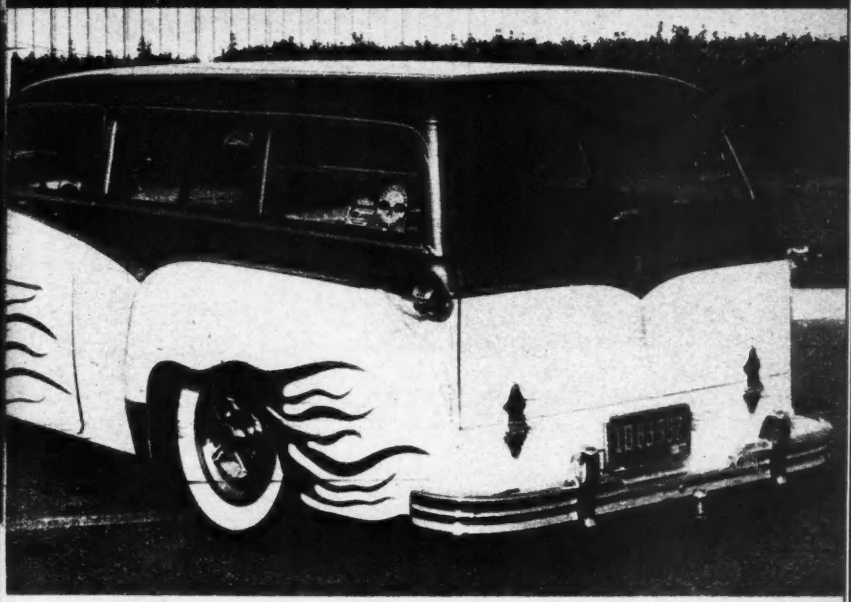
Cerny spliced in a '49 Merc grille shell to obtain smooth grille cavity, then added a '54 Pontiac center grille bar. The end extension pieces are from a '51 Ford.

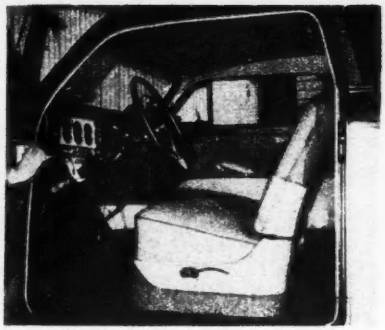


Taillight housings are neatly molded to body. Headlight rims emanate from '55 Chevy. Von Dutch, So. Calif. striping king, detailed the wagon with eccentric designs.

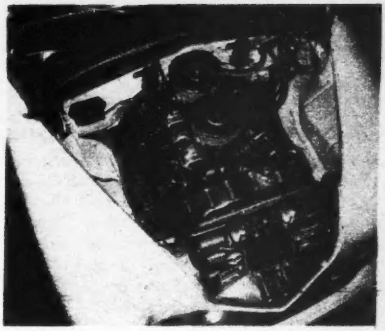
Make: '50 PLYMOUTH — Owner: GEORGE CERNY

Occupation: CUSTOM BODY SHOP — Built for: DRAG RACING AND AUTO SHOWS





Interior's attire consists of Fabrolite material in a western-tooled motif. Center of the windshield is sealed with plastic. '37 LaSalle "stick-shift" gearbox is . . .



coupled to this potent Cadillac powerplant capable of hauling small suburban 99+ mph through ¼-mile drags. Cerny's construction expense ran about $3000.

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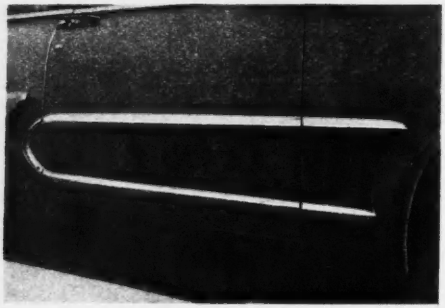
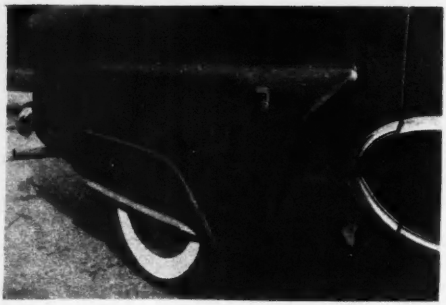
Restyled WAGONS





TOP. Novel trim styling on DeWitt's weekend warrior is a combination of '53 Dodge side trim, one piece reversed. Filling trim area is chromed checkered mesh screen.

ABOVE. Fake airscoops are built into the leading edges of rear fenders (CAR CRAFT, July '55). DeWitt has owned custom cars for past six years, many trophy winners.

RIGHT. Stock taillight frames were frenched to fenders and lenses replaced with '53 reflectors allowing the '52 Ford parking light plastic spinners to be installed.

Make: '52 FORD — Owner: CHUCK DEWITT

Occupation: GEOLOGIST STUDENT — Built for: EXPLORING TREKS, AUTO SHOWS

Custom innovations were kept on a very conservative level. The tired Ford powerplant was replaced with a Cadillac engine. Chuck uses the wagon for week-end treks into the desert prospecting for uranium.

Grille's oval shaped frame was constructed by splicing two '53 Ford grille shells together. Checkered mesh filling opening is concaved Hood has been nosed and headlight rims frenched to fenders. Barris Brothers did all the body work.

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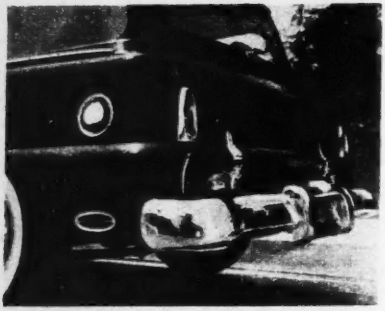
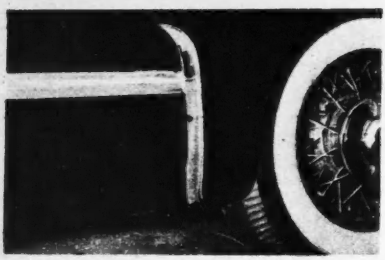
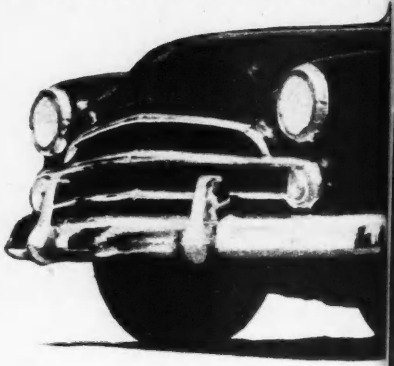
Restyled WAGONS



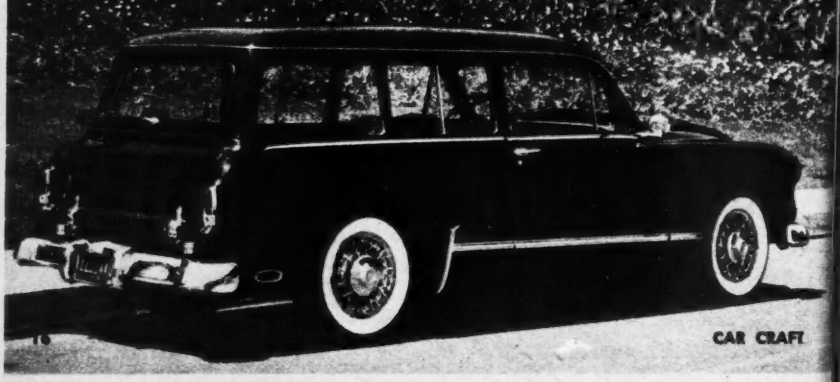


The more study you give George Cavanah's '53 Dodge wagon the more detailed work you uncover. Chrome housing for gas spout is from '51 Chrysler. Exhaust is routed out through special made chrome fittings positioned in lower portion of rear fenders. Rear door trim has been removed.



Valley Custom Shop who did all restyling work on the Serria wagon cleverly arranged side trim. Special vertical piece was adapted just in front of rear wheel with stock horizontal trim butting into it.

BELOW. Trim molding from a '50 Ford was installed along window line. Snap-on accessory strip called "Door Guard" is adapted to roof's drip rail. Rear fenders are peaked just above the taillights.

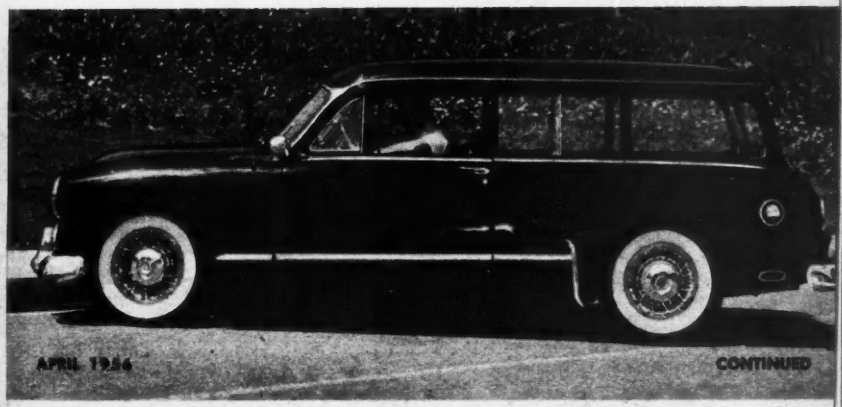


Make: '53 DODGE — Owner: GEORGE CAVANAH

Occupation: HOLLYWOOD NEWSPAPER — Built for: APPEARANCE, GENERAL USE

ABOVE. Effective grille styling was achieved by removing stock vertical bars from the opening. Hood modifications consisted of filling the small stock airscoop, removing the trim and building a slight peak.

BELOW. Radius wheel openings, genuine wire wheels and slight forward rake lend wagon popular racy look. George, employed by Hollywood's Citizen Newspaper, uses car for hauling papers and newsboys.



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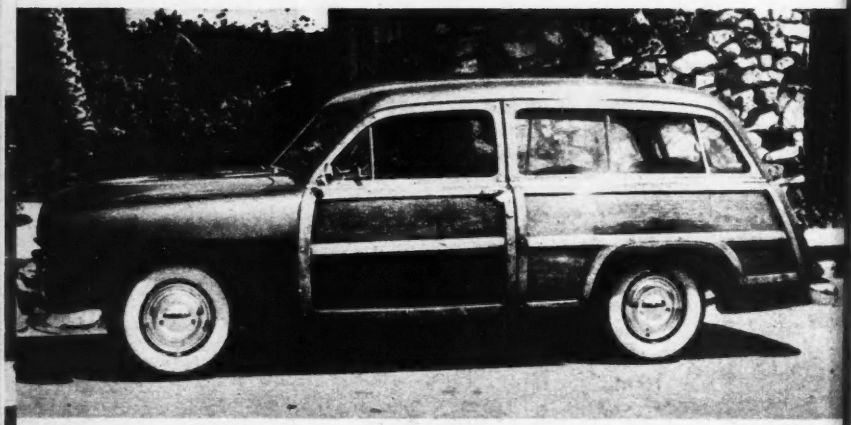
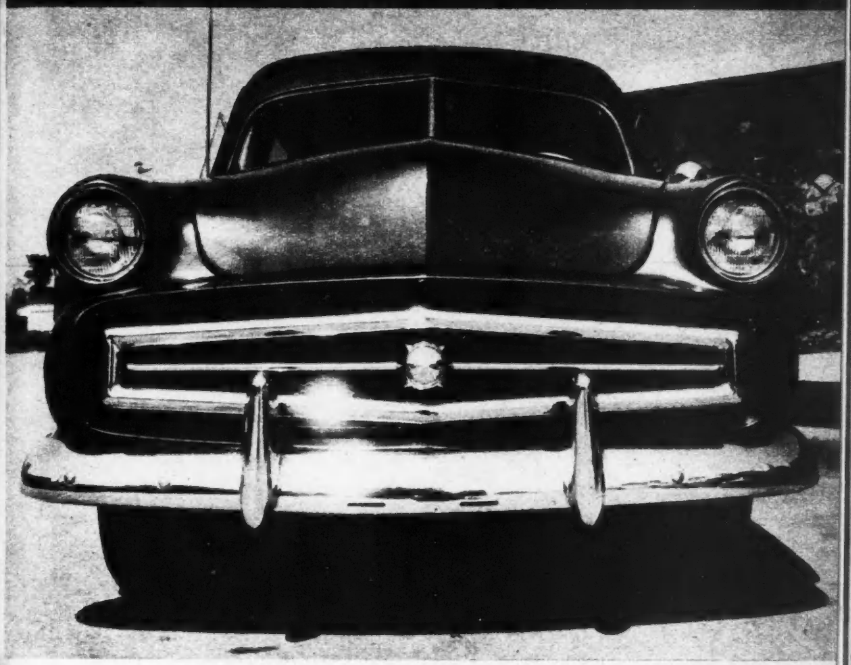
Restyled WAGONS

ABOVE. When Neil Emory, proprietor of Valley Custom Shop, found his '49 Ford wagon due for engine work he decided that time was ripe for some semi custom exterior work also. First, all the wood paneling was refinished. Next came . . . the taillights which were removed and replaced with accessory lights that offered built-in turning units. New lights are adapted to rear body pan. Replacing the stock lights are small tie-down bits essential when tying down heavy loads.



Make: '49 FORD — Owner: NEIL EMORY

Occupation: VALLEY CUSTOM SHOP — Built for: APPEARANCE, PARTS CHASER



Construction of grille was accomplished by splicing two '53 Studebaker lower grille frames together, forming oblong cavity. Grille assembly was made from tubing and small round rod. Center ornament is from the grille of a '51 Ford.

Headlights were neatly frenched to fenders utilizing '53 Ford outside and inside rims. Corners of the hood have been rounded and, with all trim removed, a slight peak was built down the center of hood. Note contour of hood to grille frame.

ENGINE SWAP:

fitting a Chevy V8 where the six holer used to be is quite a job

Photos by Rick

up to date V8 for '49-'52 Chevs

By Ray Brock

CHEVROLET ENGINES have been built for a good many years now expressly for the purpose of providing power to Chevrolet automobiles. From the early thirties until last year when the new overhead valve V8 hit the market, Chevrolet engines looked pretty much alike on the outside and it was not much of a job to drop a later inline six in place of an earlier model.

With the birth of the Chevy V8 last year having power and potential previously unheard of for Chevrolet, a lot of performance minded Chevy hot rod enthusiasts and just plain Chevy owners got a real moral lift for at last here was to be an engine which they could use. The V8 engine weight differs very little from the six so there wouldn't be the problem of overloading the front spring. Since both engines were Chevy, there shouldn't be too much of a problem adapting the V8 to the six transmission. Things looked real rosy but wait a minute, let's check with Tom Ikkanda of Los Angeles and see just what happened when he got a customer in his shop wanting a '55 Chevy engine in his '51 Bel Air sport coupe.

First, that body and chassis was made for a narrow six cylinder engine and with the V8 being wider, something had to go. By something, we mean the heater radiator and blower, then the complete hand brake assembly. Other pieces went later and details about them will pop up a little later in the story.

The job of hooking the V8 to the '51 trans turned out to be fairly simple. A '55 front bearing retainer was bought since it was the correct diameter to match the V8 bell housing and since the bolt pattern proved to be the same as the early retainer, it was bolted right on. This gave the trans perfect register with the bell housing but the mounting holes didn't match so new ones were needed. By setting the trans with new retainer on the bell housing and using a critical eyeball to get the trans case in the same vertical plane as the housing, the top two mounting

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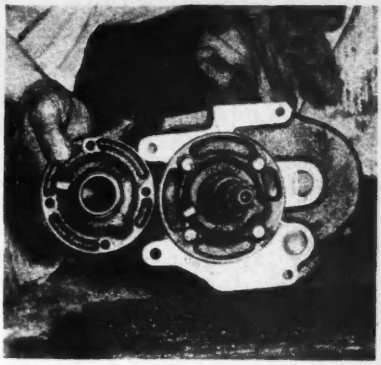
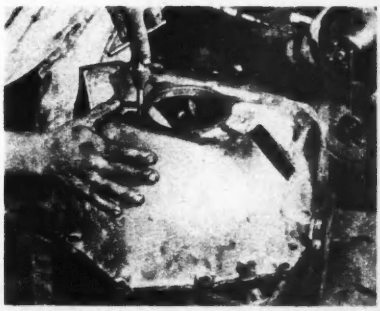


Front bearing retainer at left is from '52 Chev, was replaced with '55 retainer which bolts to trans, fits bell housing.

Trans case and bearing retainer are set on '55 bell housing and aligned by eye so new mounting holes can be drilled.

Small pilot hole was drilled first, then enlarged from inside to miss casting ribs. Top holes were tapped to 7/16 inch N.C.



Small relief must be chiseled in rib of casting to provide clearance for countershaft projecting from '52 transmission.

Piece of light cardboard and ball-peen hammer are used to copy bolt pattern from front of trans for transfer to housing.

ENGINE SWAP

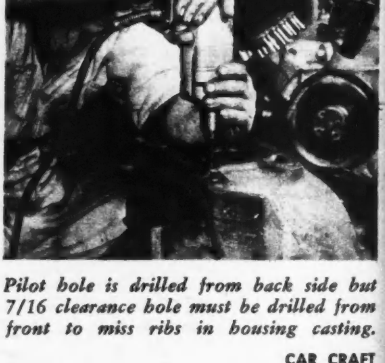
continued

holes were carefully laid out. This should be done as accurately as possible since these holes in the housing must be tapped to take 7/16 inch N.C. mounting cap screws.

For the bottom two mounting holes, a piece of light cardboard was cut to fit over the bearing retainer, placed on the front of the trans and tapped with a small ball peen hammer to get an impression of the mounting holes in the transmission case. These were then transferred to the housing where clearance holes were drilled for 7/16 inch screws. This completed the mounting of transmission to engine and all that was needed was a stock Chevy clutch disc and pressure plate to carry the power from the engine to the transmission. Right here, we'd better mention that the early trans was used instead of the later one since pre-'55 Chevrolets have a torque tube drive line which swivels in the socket on the rear of the transmission while '55 and later transmissions use an open drive line.

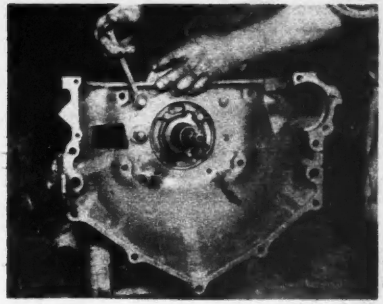
With engine and trans coupled together, both were lowered into the chassis to see how they fit. The heater and hand brake had already been removed but new problems now arose. The column shift levers were too long and hit the left exhaust manifold so were shortened to clear so that the engine could be

With top holes in pattern aligned with new top mounting holes in housing, bottom hole location can be laid out easily.



Pilot hole is drilled from back side but 7/16 clearance hole must be drilled from front to miss ribs in housing casting.

Bottom mounting holes are drilled and made big enough to accept 7/16 inch cap screws. These holes can be a loose fit.



With all new mounting holes drilled, the transmission is bolted to the '55 housing, two from the inside and two the outside.

eased farther back into the chassis. Now, the body braces which ran down the face of the firewall interfered with both heads. These two braces provide rigidity to the firewall and each one continues down to the frame where it becomes a body mount, but they were in the way. A couple of minutes with the cutting torch and the way was clear for the engine to be pushed back in place.

The transmission was bolted into stock position and shift linkage hooked up. The transmission shift levers were shortened slightly to match the amount cut from the column levers so that the shift travel would remain stock and the shifting rods themselves were reshaped slightly to clear the larger V8 housing.

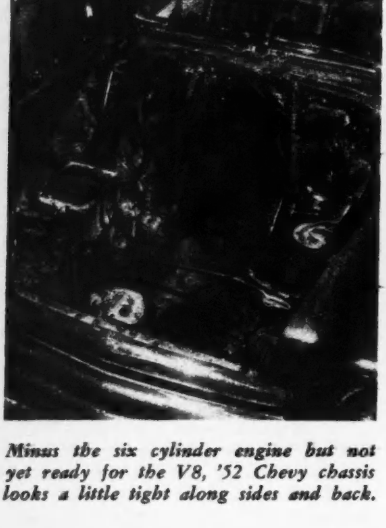
View of completed adaption of early Chev transmission to '55 V8 Chevy engine. Clutch parts are all of stock Chevrolet.

Front motor mounts were extended inwardly from each side of the frame and made of ¼ inch plate gusseted from below. A late Ford cable type hand brake was installed to take the place of the discarded Chevy brake linkage.

The entire electrical system was converted to 12 volt with all light bulbs replaced, a 12 volt regulator installed, a new 12 volt battery mounted where the six volter used to sit and resistors were mounted between each electrical dash instrument and the hot wire supplying it. Resistors were also needed for the radio, horns and the heater unit which was remounted higher up on the right side of the engine compartment.

Performance was as expected, greatly improved, but after it was all over and Ikkanda stepped back to take a breath and review what he had just been through, he said that next time he would use a different approach. Tom thought it would be easier to extend the drive line and torque tube a few inches so that the engine could be shifted farther forward in the chassis. This would eliminate chopping the two firewall braces out, let the shift linkage remain stock except in rod length and make it easier to mount the engine on the front crossmember. The rear transmission mounts would have to be extended forward but Tom thinks that it would be worth it.

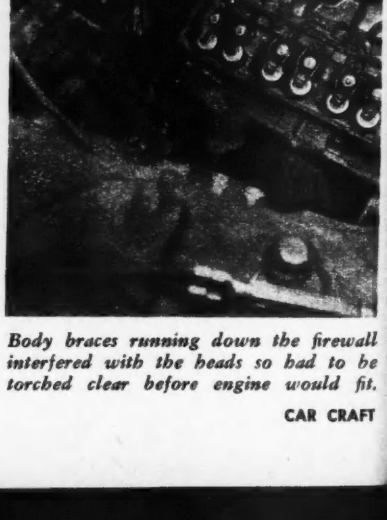
Take a good look at your car before you start fellows, let Tom Ikkanda's experience on a prety rough engine swap make things easier for you. It's just a guess on our part but you might be able to find a drive line from a Chevy pickup truck which would give that extra few inches you need. **CONTINUED**



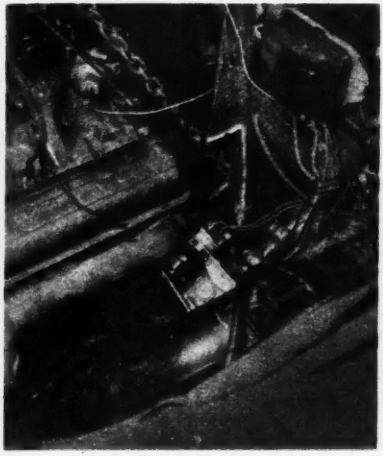
Minus the six cylinder engine but not yet ready for the V8, '52 Chevy chassis looks a little tight along sides and back.

One of the first items to be eliminated was the radiator for the car heater. It was later replaced in a new position.

Mechanical linkage for hand brake (center) had to be eliminated, replaced with a late Ford cable type brake assembly.



Body braces running down the firewall interfered with the heads so had to be torched clear before engine would fit.

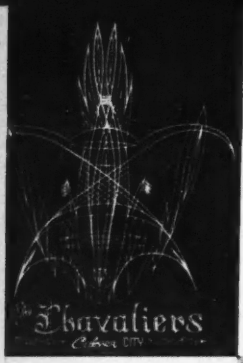


Left side firewall brace was also cut out and both column shifting levers had to be shortened to miss exhaust manifold.

New engine mounts were built in from the frame side rails of ¼ inch plate and gusseted from below for added strength.

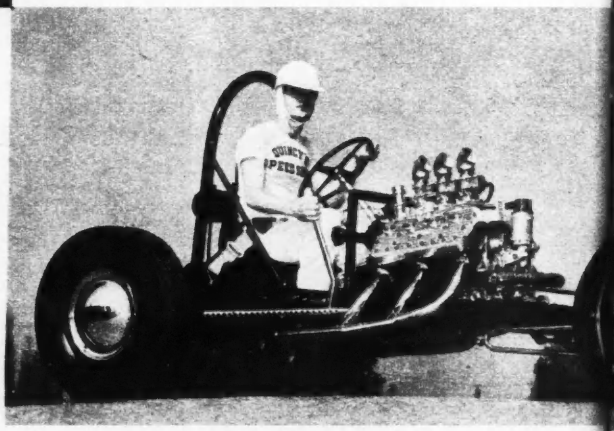
Almost ready to go. Near new Chevy engine was bought from large stock at Lewie Shell Motors, 11726 Wilshire, Los Angeles

V8 engine fits well back against the '52 firewall with plenty of room up front. Electrical system was changed to 12 volt.



CHAVALIERS
BUILD A CHARIOT

By Bob Greene



Photos by Von Updegraff

SINCE THE WHOLE IDEA behind any car club is to see how well a given group can work together it follows that the biggest thing they can do for themselves, and each other, will ultimately take shape in the form of a club project car. Just ask the Chavaliers of Culver City, California. Like Gaffers and Sattler, they just PUT together one of the hottest stoves to come along in many a day. That is, if horsepower estimates and appearances have anything to do with elapsed time through the quarter mile.

The Chavaliers figure that the '48 Merc flathead (built by Ray Alley, Quincy Speed Shop) in their rail job will deliver 300 horses (on fuel) at the flywheel, and that should be a plenty. Bored out to 3⅜ inches and fitted with a crank of ⅝ longer reach (4⅜ stroke), the huge Merc is running an Engel 390 cam with adjustable tappets, big valves and Forge True pistons. The block has been ported the limit and the Sharp heads have been rechambered. The stroker crank (donated by L. A. Crankshaft Co.) necessitated notching the bottoms of the cylinder bores for rod clearance. Multiple carburetion takes the form of an Offenhauser manifold with three Stromberg '48's up.

Carrying the load is a vintage Hudson frame with 2½-inch chrome moly crossmembers. Up front is another vintage goodie, a '26 Chrysler tube axle with Ford spindles and

a club project that not only goes but has the chrome to make it show too

cross springing. Steering is also an oldie, a '26 Chev unit. The Model A 3.78:1 rear end is equipped with Chevy truck axles with a Cook spool and is coupled to the 28-tooth Ford gear box by a very much shortened closed Ford driveshaft. Other features include Cook safety hubs and an adjustable rear spring hanger for changing body rake as tire sizes are changed.

While the dragster has yet to drop the top competition in its class at the strip, victory has already been assured — go or no go, the Chavaliers have proven that they can successfully work as a team to produce a fine piece of drag machinery. That much you can see at a glance!

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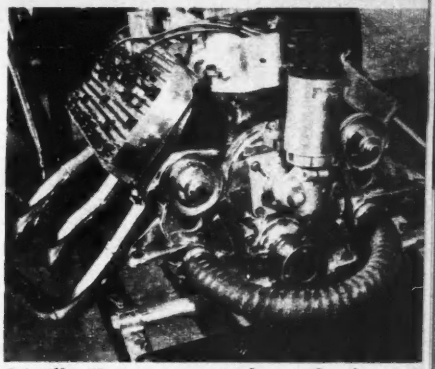
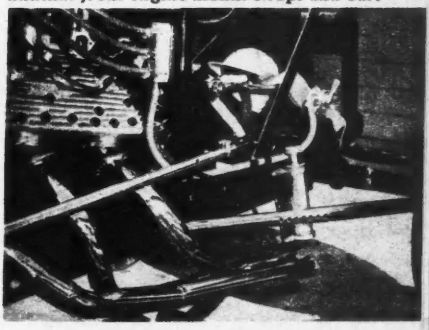
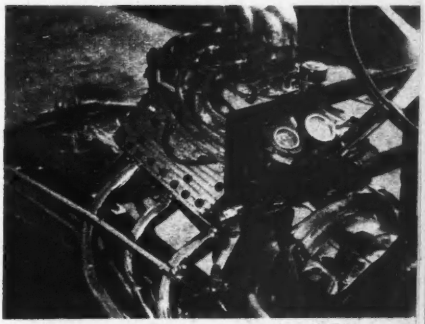


Scintilla Vertex magneto keeps the fire flying in 313-cubic inch flathead. Note unusual front engine mount straps and bar.

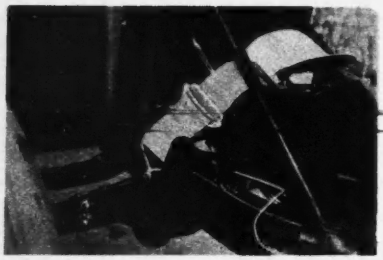


Special pitman arm with adjustable tie rod ends. Fuel system routing from tank behind seat shows shut-off and fuel block.

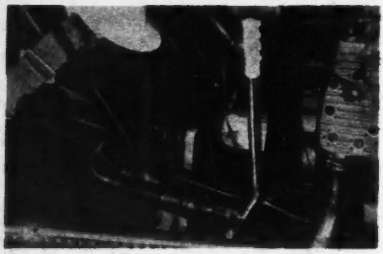


Steering gear mounts on cross-bar held to upright by con rod big ends welded in place. Oil and fuel pressure gauges shown.

continued

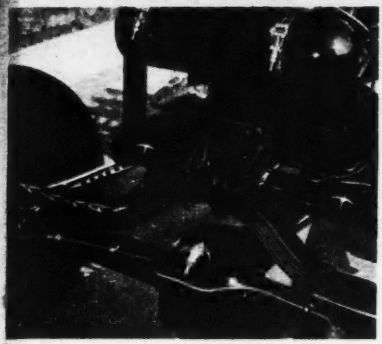


Hartford adjustable friction shocks are rigged up for the rear axle, while 50/50 Houdaille snubbers control the front end.

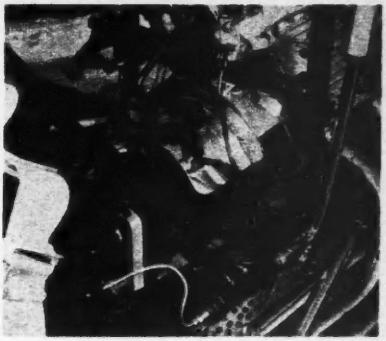


Old Hudson frame mounts hydraulic brake master cylinder on right side. The frame is finished in glistening black lacquer.

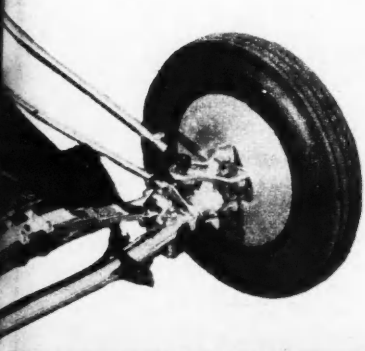
The engine was built by Ray Alley who also happens to be the chauffer of the car. In addition to being a First Place winner at auto shows, the Chavaliers dragster is turning over 130 mph in the quarter mile. Latest plans are to revamp the black beauty into a "slingshot" for higher speeds.

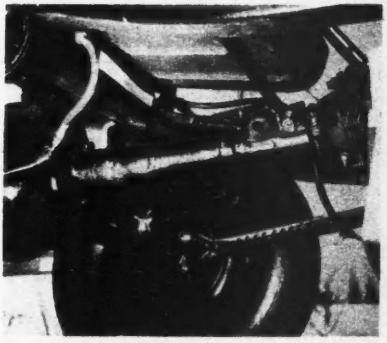


Spring mount bracket on frame is drilled to accept spring in different positions, permitting variations in the frame height.

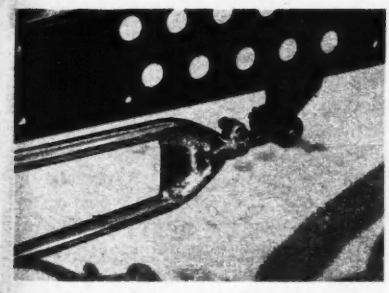


Great pains were taken to fabricate very elaborate steel safety cover for clutch and flywheel. Note the throttle linkage setup.

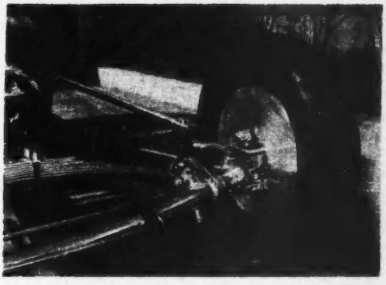




28-tooth Ford gearbox and 3.78 rear end are joined with shortened Ford driveshaft. Chevrolet truck axles are employed.



Sparkling radius rod terminates in adjustable tip made up from old tie rod end. Caster of front axle is fully adjustable.



Beautiful front end is self explanatory in detail. 1926 Chrysler tube axle has tow brackets made from con rod big ends.

"DOWN IN FRONT"

here is a new method of lowering the front of a car without ruining the ride

Before starting the job of installing the lowered supports, this photo was taken.

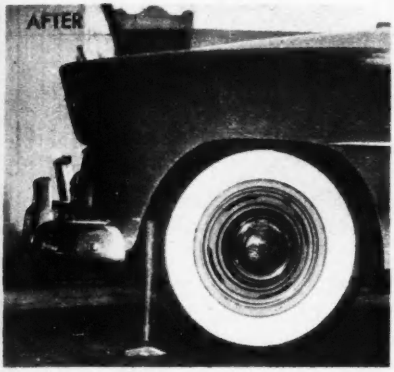
LIKE THE OLD SAYING, "There are a lot of ways to skin a cat," there are also a lot of ways to lower the front of a car with coil springs. The simplest of these methods is merely to slap the heat to the coils with a torch and let the weight of the car collapse the coils to the desired length. The only trouble is that the spring will lose its reason for being on the car in the first place and passengers are sure to feel every bump from the size of a grape seed on up.

Another method often used is to cut one or two turns off the coils and gain a drop equal to twice the amount cut off. This method is probably better than the first except that he car will "bottom" much easier than when stock with practically the same eyeball rattling effect as a sledge hammer hitting you under the chin. Part of this can be eliminated with rubber snubbers between the coils but then, up comes the stiffer ride again.

There have been other methods tried, mostly unsatisfactory, but at last we ran across a method which although not letter perfect, at least seems to offer the best results. This method was devised by Lyon Engineering, Lynwood, California, and will work on most General Motors cars as well as some of the Chrysler products. What determines whether they will work or not is whether the steering arms will clear the "A" arms in the lowered position.

The method used by Lyon to get the desired drop is as follows. He takes the stock spindle support and saws off the kingpin bushing boss. This boss and the support are clamped in a jig which has a two inch offset from the stock position. An aircraft welding company then takes over to do the critical work, the welding of the kingpin boss back onto the spindle support. The process and specifications used are the same as those used

By Ray Brock

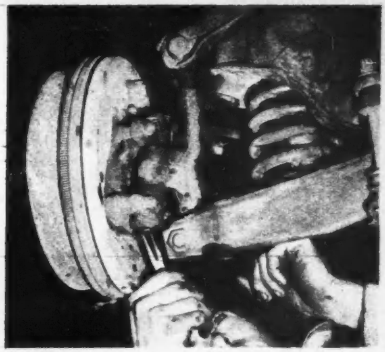


After the switch was made, drop is indicated by arrows opposite hammer handle.

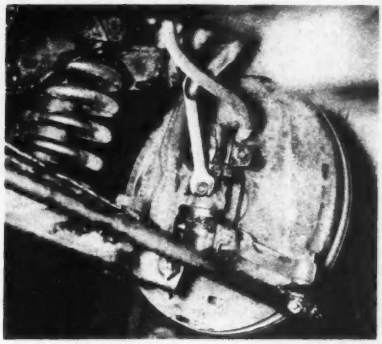
in welding aircraft landing struts. After welding, the welds are annealed to remove all stresses and prevent brittleness.

The car used for the how-to-do-it pictures in this story was a 1952 customized Chevrolet which had previously been lowered by the cut-coil method and then refitted with new stock springs when the owner got fed up with the ride they gave. The total drop achieved by Lyon's new method was two inches and the ride was left absolutely stock since the coil itself was left stock.

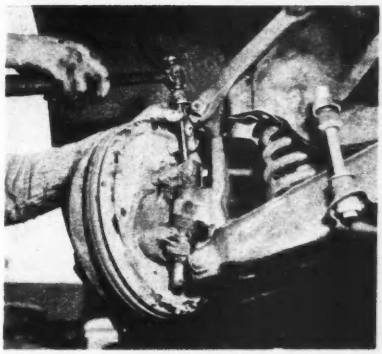
After any method of lowering the front end of a car, the wheels must be realigned to correct the steering geometry and prevent excess tire wear. When the lowering job on the Chevy was completed and wheels aligned, the owner reported that he finally got that wheel opening down to where it covered the top of the tire and still had a perfect ride. Lyon had another satisfied customer. CONTINUED



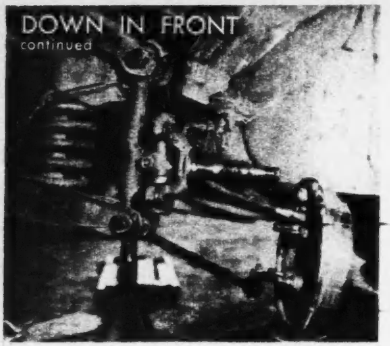
1. First step of switching supports is to remove dust shields on end of kingpins.



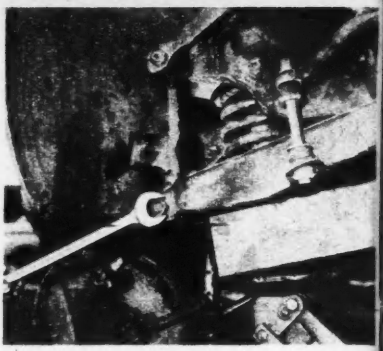
2. Locking bolt fits through groove in kingpin. This must be removed on each pin.



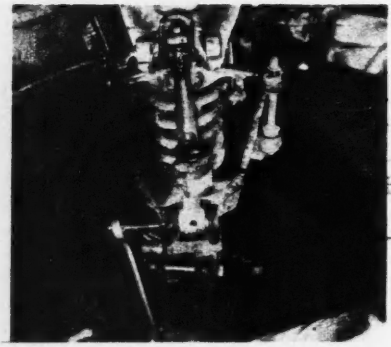
3. On some cars, the kingpins can be removed without taking backing plates loose.



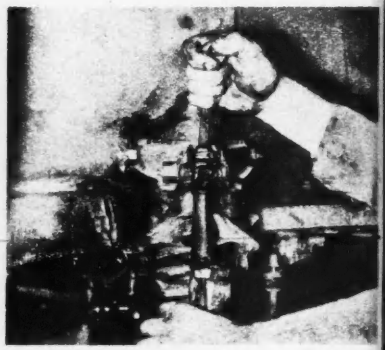
4. On the car used in the story ('52 Chev) the backing plates had to be removed too.



5. With jack under "A" frame to hold the spring load, the bottom bolt is removed.

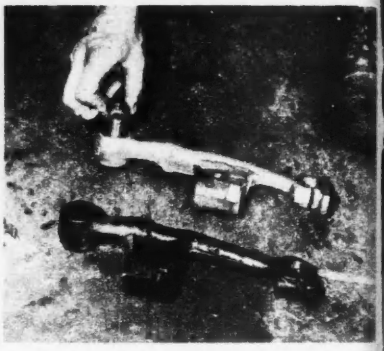


6. Bolt must be unscrewed the entire length to clear the threads in bushing.

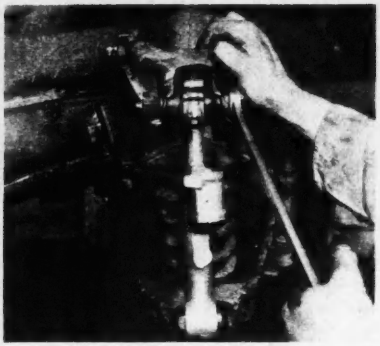


7. Before removing top support bolt, the eccentric lock bolt has to come out too.

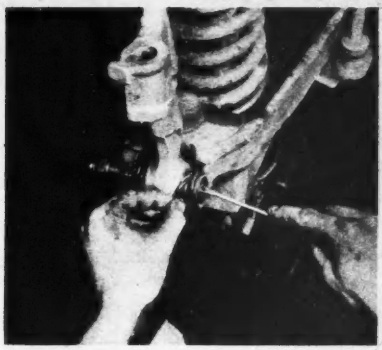
8. It's good to check all spacers, seals and piece location during the disassembly.



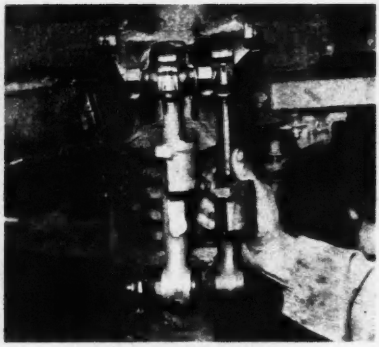
9. Be sure to put threaded bushing in the new support from the correct side.



10. Don't forget the neoprene dust seals when assembling the support to "A" arm.

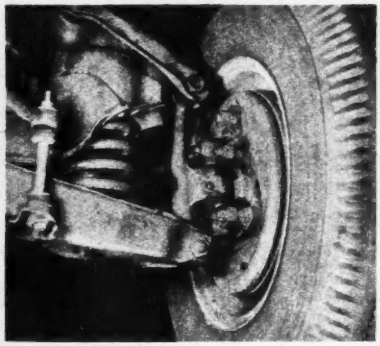


11. Small "O" rings are used to keep the dirt out of the bottom support bushing.

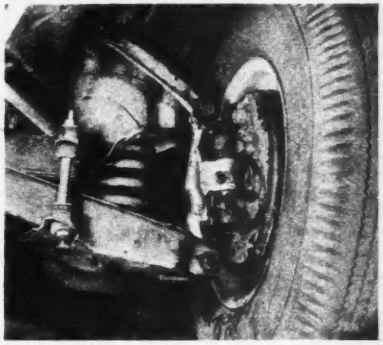


12. Exact amount that the kingpin boss was raised is apparent in this comparison.

13. After assembly is complete, front end alignment must be checked and reset.



14. This "before" picture will give good comparison against "after" shot, right.



15. Method of raising kingpin support to lower car is clearly illustrated above.

WINDFIELD'S BODY SHOP

Restyles The '52-'

Gene Windfield
Dave Merrill
Ernie Graves

GENE WINDFIELD, who is well known in central and northern California for his crafty custom work, started his metal working practice while in high school. Recalling his first attempt at the trade of restyling automobiles, he remembers filling a radiator hole in the top of a '32 Ford grille shell. "The job was very time consuming and complex," Gene explained, "mainly because I used a blow-torch for welding and leading—a practice that is not recommended." After graduating from school, Gene's two brothers took him in as a third partner in their general automotive repair business. One year later and Gene knew he would never be satisfied 'til he had his own custom body shop, so he began looking for a suitable dwelling to strike out on his own. His young determination had to settle for a chicken house which possessed enough space for one car, one tool box and one man, providing he was slenderly built. Gene set to work and in less than one year the business had snowballed to the point where the once so-called "chicken shed" had transposed itself into a teeming body shop. In the latter part of 1950 Uncle Sam requested Gene's presence. While stationed in Japan with the Army and not wishing to become rusty at his profession, Gene sectioned and

Although wagon has been radically restyled it still retains its utility for everyday uses. Tapered top, flush fender and hood styling plus inset grille assembly is reminiscent of dream car styling.

2-'54 Ford Ranch Wagon

chopped a '41 Ford. Upon discharge from the service, Windfield fired up the lead pot once again and began to sculpture custom creations for local youthful clients. To date, and in a brand new location, Gene's shop is a successful business manned by two fellow workers, his wife and three part-time employees. He specializes in all types of automotive body work from aluminum to fiberglass, lacquer paint jobs being his specialty. He states that visitors are always welcome, so if you're in or around Modesto, California, drop in, you'll find the shop very informative and his personal '50 Merc custom a rare treat to the eyes. The address is: Windfield's Custom Body Shop, 451 Tully Road, Modesto, California.

CONTINUED

Illustrations by Don Fell

RESTYLES continued

THE STATION WAGON of today is quite a different breed than that of its predecessor of a few years ago. It's no longer dubiously titled "station wagon." The name has been changed to *Suburban, Nomad, Estate Wagon, Safari,* etc. Paralleling this revision in designation has also come a great deal of restyling, and from all this radical rejuvenation, today's wagon does not give ground to even the popular and stylish hard top models. For this reason alone, the wagon is rapidly becoming a new product for the customizers. To prove the case in point, we offer Gene Windfield's conception of the restyled wagon. One glance, and like us here at CAR CRAFT, you just gotta' say *uncle*!

Gene's basic working model is a Ford Ranch Wagon—'52-'53 vintage. The first alteration to the Ford's body consisted of removing a four-inch section from just below the fender line. While sectioning modifications were under the torch, the front fenders were reshaped and relieved of their headlight components. Fronts of the fenders are detailed out with a much narrower leading edge and are molded directly into the grille cavity. Upper portions carry a unique side peak that diminishes into the body, cleverly harmonizing with the ala '55 Dodge wheel opening treatment. Stock rear quarter paneling of the fenders, that once protruded from the body, has been eliminated so that fender line now is perfectly flush fore and aft. The next major transposition was chopping the top and fitting side and rear glass from a '55 Pontiac Safari wagon in place of the Ford's windows. Another similar design to that of the *Safari* or the Chevrolet *Nomad* is the tilted body and door support to the top found just to the rear of the door. Notice that the angle of this support is in exact alignment with the full wrap around windshield installed that emanates from a '55 Buick.

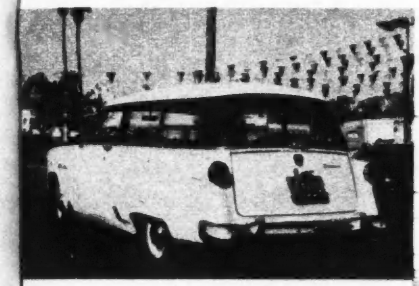
The hood is sectioned and reworked to almost a flat panel, similar in contour to that of the rear portion of the stock Ford hood. "This would be accomplished," explains Gene, "with the new and versatile epoxsy resin and fiberglass." The very bold and dramatic grille assembly is made up special from 18 or 20 gauge sheet metal and a small amount of tubing. The horizontal bars are connected

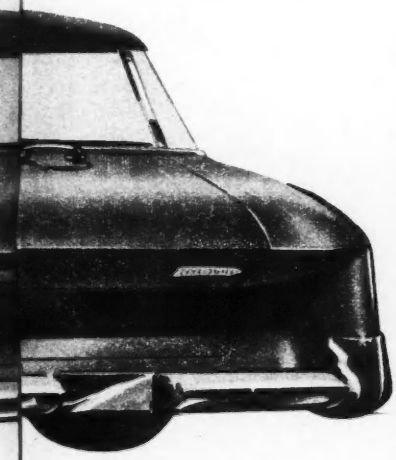
Wrap around windshield with full vision side and rear glass is big safety feature. Large special lenses are visible from the side as well as from the rear in traffic.

solidly to the large housings that now contain the headlights. Front bumpers originate from a '53 Studebaker. Their modification consists of first cutting two separate bumpers lengthwise and then welding them back together, achieving the tapered effect. Plates are welded to the opened ends so that they give the illusion of solid bars.

The rear of the Ford wagon touches upon the modern vogue in dream car styling, that of compound curves and concaved paneling. Rear doors and fenders are blended together, forming approximately a six-inch extension to the rear of the body. A clever gimmick in constructing rear fenders is the use of special large plastic lenses to carry the compound curve which eliminates complex metal work. The rear bumper, also made from a '53 Studebaker component, is split in the center, allowing the license plate to bolt directly to the body. Large chrome bumper ends that set into the fenders are from a '49 Cadillac. Other minor trim modifications consist of the gas spout being moved to the inside of the car in a special container which would eliminate gasoline odor; '56 Lincoln parking lights installed in the rear door serving as turning and backup lights, and the removal of door handles, with doors now actuated by electrical push buttons installed in the dash and in a concealed spot on the outside of the car.

The finished and now customized wagon is a preview of styling that is expected to hit the showroom floors some time in 1960. But if you have the urge to get started now we're sure that Gene would be very glad to oblige you for this one-of-a-kind custom wagon.





PRICE AND PARTS LIST:

	Labor	Parts
Section the body	$1200.00	$ ———
Chop top and install glass ('55 Pontiac)	600.00	37.50
Install windshield ('55 Buick)	400.00	115.20
Rework hood using fiberglass	60.00	———
Rework front fenders with peak and round corners for grille	125.00	———
Build grille from sheet metal	50.00	5.00
('53 Studebaker)	45.00	12.00
Rework fender line flush and construct wheel opening	130.00	———
Remove door handles and install electrical push button system	50.00	20.00
Rework rear door and body panels	100.00	———
Extend rear fenders and install special plastic taillights	150.00	———
Build rear bumpers ('53 Studebaker)	45.00	22.00
('49 Cadillac)		
Install backup lights and turning indicators in rear door ('56 Lincoln)	10.00	6.90
Lower car 2-inches (optional)	20.00	———
Install '55 Chrysler hubcaps	———	33.00
Paint (special lacquer)	200.00	———
	$3185.00	$251.60
	251.60	
	$3436.60	

PAN PROBLEM?

PAN PROBLEM? pan problem? pan problem? PAN PROBLEM? PAN PROBLEM? PAN PROBLEM? PAN PROBLEM?

engine swaps sometimes find pan in the way of the steering

PROBABLY THE MOST COMMON of all the problems that arise when an engine is being put into a chassis for which it was not designed is the interference somewhere along the line between steering linkage and the oil pan. If the linkage interferes with the rear of the pan on a late General Motors V8 engine there is not much that can be done to the pan since the oil pump and the sump are located to the rear of the engine. In this case (which occurs when a Cad is dropped into a late Ford chassis), the steering linkage must be altered to pass beneath the pan or the engine must be set unusually high in the chassis for clearance.

The other type of interference which you can do something about in an easier fashion is when the steering linkage does not clear the front of the pan sump on an engine with a rear oil pump location. Pictures on the following pages show how a '55 Cadillac oil pan was "chopped" to provide clearance with steering linkage of the '55 Chevrolet chassis into which the Cad engine was being installed.

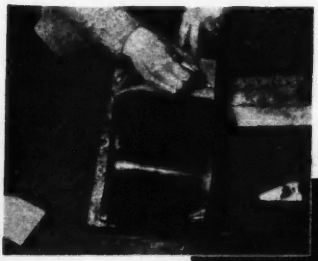
Of major concern of course is whether the planned alterations can be carried out without affecting the engine's oil system. Lyon Engineering, 11370 Long Beach Blvd., Lynwood, California made the engine swap mentioned in the above paragraph and the first step was

Cardboard template was made as described in the story to clear '55 Chevy steering. Template registers to pan bolt holes.

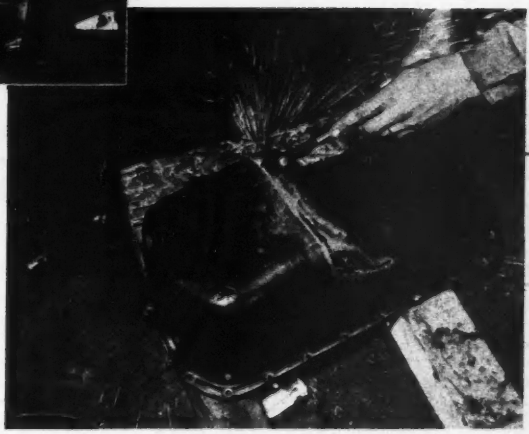
Text and Photos by Eric Rickmon

Torch is used to cut along new curve as laid out from the cardboard template.

Torch cut along leading corner of pan sump lets piece to be discarded drop out.



After cutting one side, match pattern with bolt hole and switch to the other side.



With new front curve cut on each side of the new sump, torch is then used to cut across the bottom of the pan and loosen the flap of sheet metal which formed old sump.

Text and Photos by Eric Rickman

CONTINUED

PAN PROBLEM?

continued

to make preliminary measurements which revealed that the sump capacity would not be seriously lessened. With this determined, Lyon installed the engine in the chassis minus pan (complete installation story in March '56 HOT ROD) and then chopped the pan to fit.

With the engine in place (sans pan) and the front wheels of the car jacked up to clear the ground, Lyon cut a cardboard template similar to the shape of the stock oil pan curve to the sump which was then held against the lower edge of the clock while the front wheels were swung from side to side. By shifting the template along the block until the steering rod between pitman arm and idler arm cleared, it was easy to determine how far back the shallow part of the pan would have to be extended. The template was indexed to pan bolt holes in the block and was then ready to be transferred to the oil pan for the chopping operation.

The pattern was transferred from the template to the pan and a torch cut made along each front corner of the sump to meet the first cuts. Another cut across the bottom of the sump on the front edge and the whole front curved section of the sump was loose. With a hammer, torch and fender dolly, this piece was flattened out and then recurved to match the new curve of the pan sides.

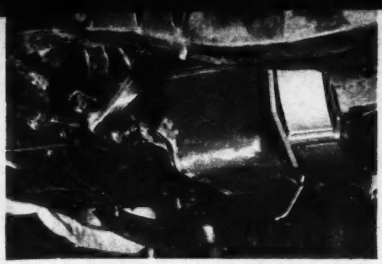
Before tacking the flap to the curve and starting the weld, the pan was fastened to the engine with a couple of bolts and the front wheels were then swung through full travel to make sure that Lyon didn't goof on measurements. If the steering rod had hit anywhere, the curve could be trimmed more to give clearance.

Next, the edges were tacked together around the curve and the flap was trimmed to match the cut across the bottom of the pan. These edges were tacked also. All seams were then checked against leaks. Since the shape of the pan was not drastically changed, there was not enough heat involved to cause warpage in the welding process. A coat of paint and the pan was ready for the engine.

The capacity of the sump was cut down by just over one half quart and the shallow part of the pan was kept the same so that there was plenty of crankshaft clearance. Just in case you are putting a big engine in your car and are worried about the steering problems, take another look, maybe this will be a way out.

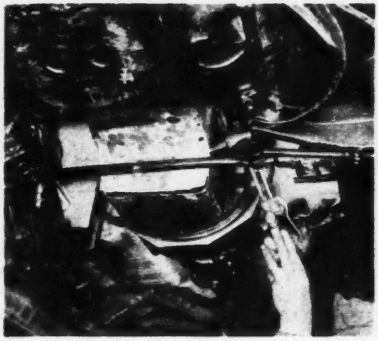
Body hammer and small fender dolly are used to straighten out all the old curves.

After flap is straightened, it is then formed to the new curve with hammer and heat.

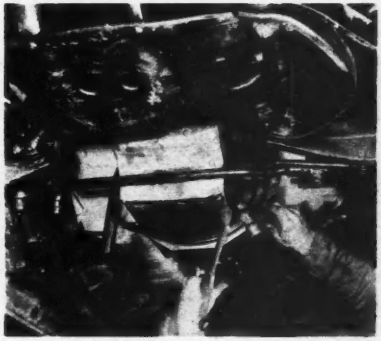


With new sump curve formed, straight ahead steering position shows ample room.

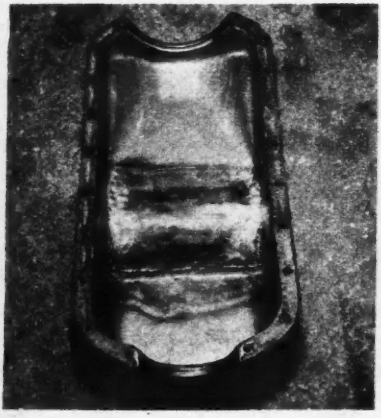
With wheels cramped full over, steering rod just touches corner of new oil sump.



A little trimming with the torch and steering rod will miss in all positions.



With torch and hammer, the flap to fit around front curve is formed and tacked.



After everything is welded back in place, scars remain but pan fits, is leakproof.

Finished job with a little paint doesn't look too bad. Sump capacity is smaller.

FOUR IN ONE TONNEAU COVER

want to save money? you can follow these pictures to make your own convertible tarp

HEY, YOU IN THE RAGTOP! Spring is almost here and that's the season when you can tuck away that weather stained car umbrella for a few months and let the fresh air come in from all sides.

So what happens when you leave old Betsy out in the sun all day? What happens to the upholstery when you're in the sack and the midnight dew or a summer rain squall comes along? What happens when a small tornado blows up and the dust gets heavy?

You need a solution? Well, I tell you what I'm a going to do! Right here on these pages, you're going to see one of the dandiest little inventions that ever was designed for you health addicts driving the collapsible top models. I call this little beauty the four-in-one and I don't mean a neckpiece.

If you'll just step up real close, I'll show you how it works. First, here is a weather tight full cover that makes the whole thing snug including the steering wheel. So you want to go someplace? Pull the zipper, unsnap the snaps and there is an opening just big enough for you alone. Then, you see a friend (preferably female) that's looking for a lift—snap, snap—room for a passenger. A little farther down the road and a couple of the guys (darn it) flag you down—so, some more snap, snaps and another zip, zip—room in the back seat for more. The fourth part stays put on the car as a top boot unless you get longing for a roof over your head.

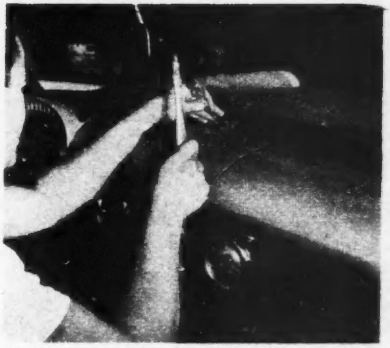
And that friend, is the little invention I was telling you about. Excuse me, here comes the law—I'll see you later.

The guy that pops up in all the pictures and does all the work for this story is named Jack McNeil and can be found running a business at 1755 West 64th St., Los Angeles, called Jack's Top Shop. A real cooperative and talented gent.

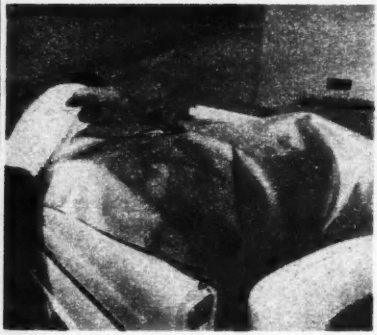
1. First step is to measure the amount of material needed. This job took six yards.

2. Snap fasteners must be placed to hold cover so are added along sides in chrome.

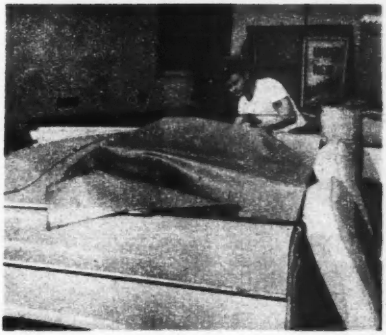
3. Snaps are substituted for existing upholstery trim screws whenever possible.



4. Heavier lift-a-dot fasteners are used at front and other points of extra strain.



5. Material is stretched and pinned to seats, tacked between chrome and body.



6. Tacks to hold stretch, if set lightly between molding and body, won't scratch.

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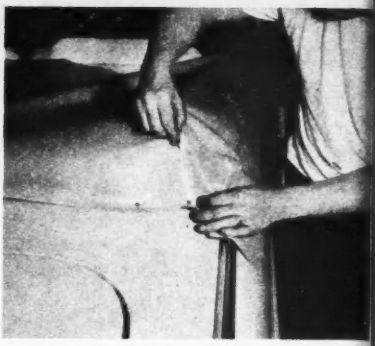
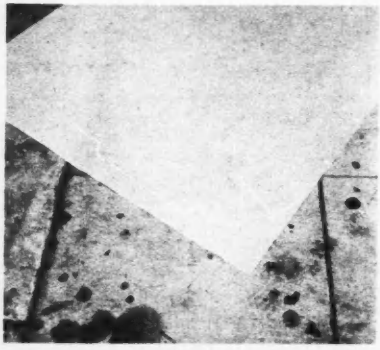
7. Material used here is Naugahyde but other such as canvas can be used as well.

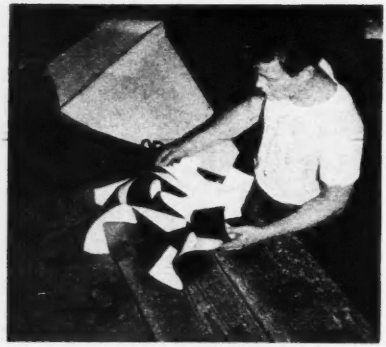


8. With material stretched tightly, chalk gives good outline of area to be covered.



9. Dots along outlined edge show where material will be fitted with snap buttons.

10. Cloth should be trimmed on the line except at tuck where hem needs allowance.



11. Strips of material 2½ or 3 inches wide are needed to reinforce for snaps.

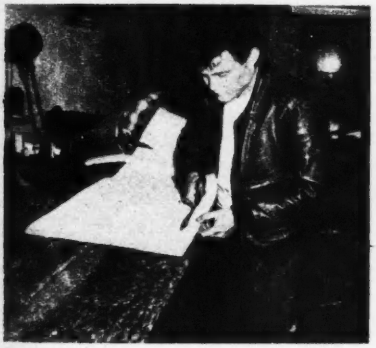
12. With edges of tuck folded together, they're sewn on back side to make corner.

13. Another run down the outside of the tuck through fold makes seam lie flat.

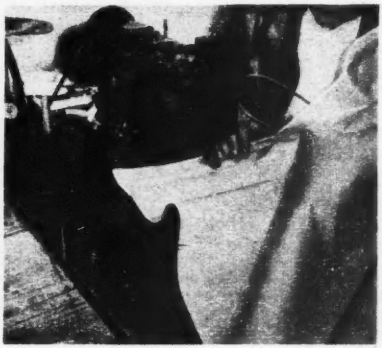
14. Double thickness of reinforcing is used under snaps, three around corners.

15. Reinforcing excess is trimmed and edge then finished with binding tape.

16. Snaps must be securely anchored thru the double thickness before sewn down.



17. Strips of foam rubber ¾ inch thick and 1¼ wide are used to fill rolled edge.



18. Rubber is sewn between tarp and double thickness flap below to give soft roll.

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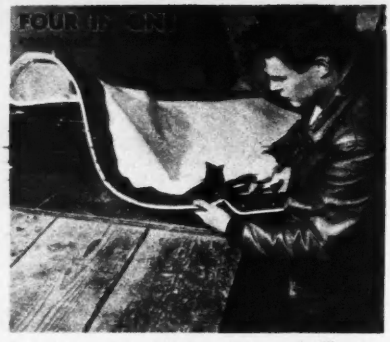


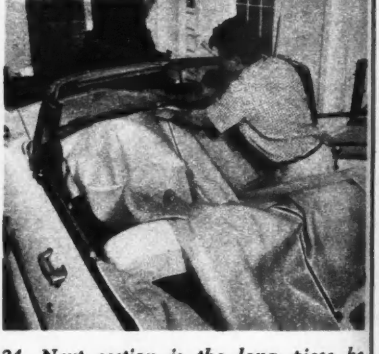
19. With snaps, binding tape and filler in place and sewn down, excess is trimmed.

20. Top boot section is snapped in place and outline for inner shape laid out.

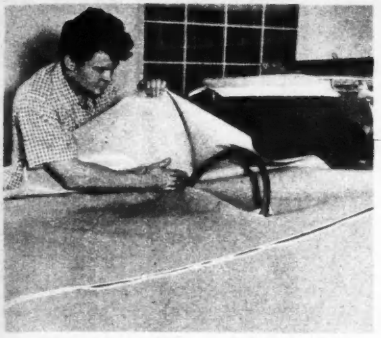
21. Strip same width as zipper to be used is trimmed out to compensate for zipper.

22. Extra piece is needed to fit between top boot and snap fasteners on top well.

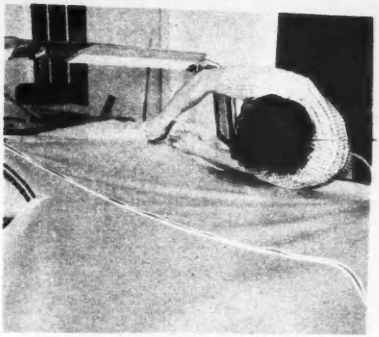
23. After binding and installing snaps, piece is sewn to boot to finish section.



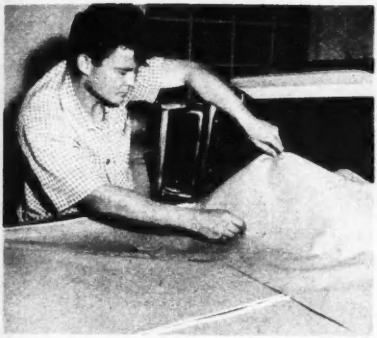
24. Next section is the long piece between windshield and piece at back of seat.



25. Before stretching to windshield can be completed, wheel opening must be cut.



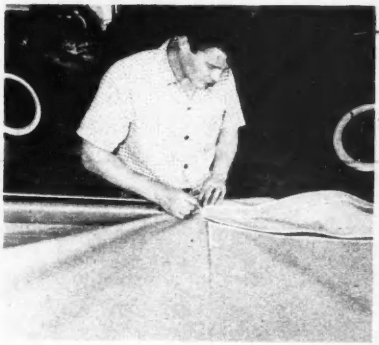
26. After the material is stretched and marked, it's cut, reinforced like boot.



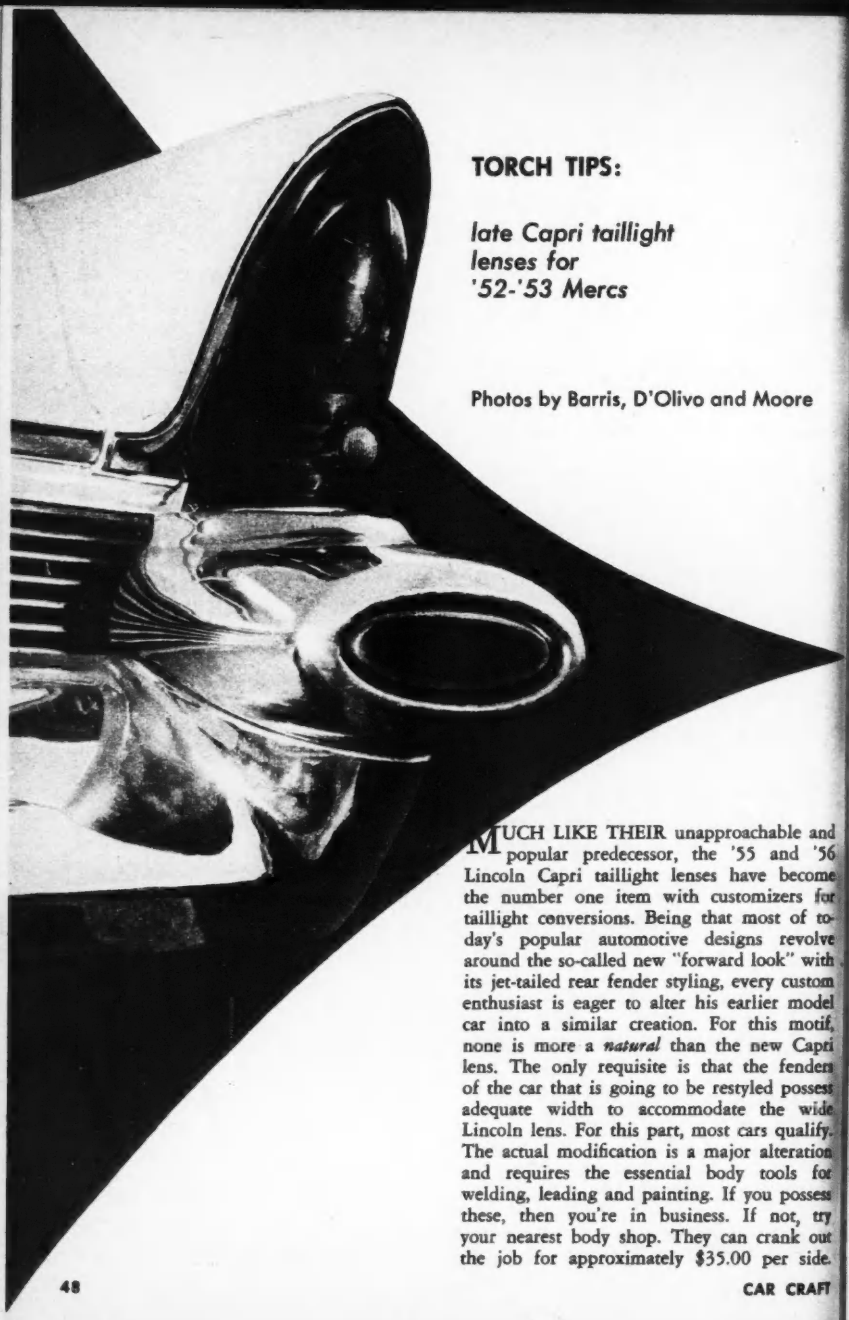
27. Tarp is fitted to sides of car, then piece is cut to fit over steering wheel.

28. Snap position is located then front section joined to rear with a flat seam.

29. Sewing together of all the large pieces is left till last to ease handling.



30. Final step is to install extra dot snaps to eliminate sag and stretch tarp.



TORCH TIPS:

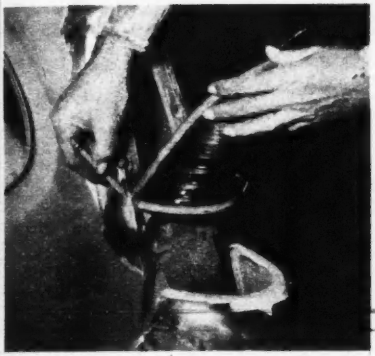
late Capri taillight lenses for '52-'53 Mercs

Photos by Barris, D'Olivo and Moore

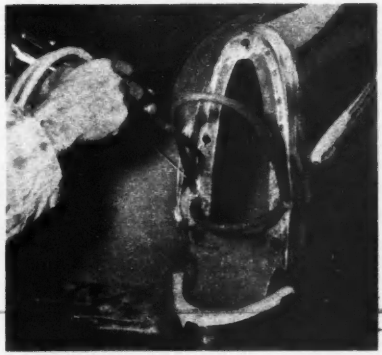
MUCH LIKE THEIR unapproachable and popular predecessor, the '55 and '56 Lincoln Capri taillight lenses have become the number one item with customizers for taillight conversions. Being that most of today's popular automotive designs revolve around the so-called new "forward look" with its jet-tailed rear fender styling, every custom enthusiast is eager to alter his earlier model car into a similar creation. For this motif, none is more a *natural* than the new Capri lens. The only requisite is that the fenders of the car that is going to be restyled possess adequate width to accommodate the wide Lincoln lens. For this part, most cars qualify. The actual modification is a major alteration and requires the essential body tools for welding, leading and painting. If you possess these, then you're in business. If not, try your nearest body shop. They can crank out the job for approximately $35.00 per side.

1. First remove stock light and grind paint from the surface of the fender.

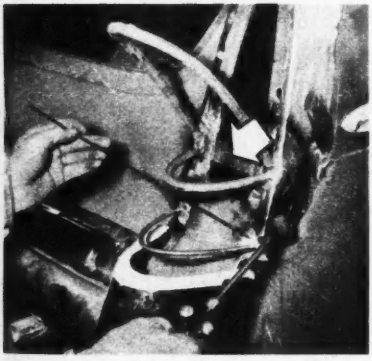
2. The "jet-tailed" Lincoln lens is now sighted in for alignment and positioning.



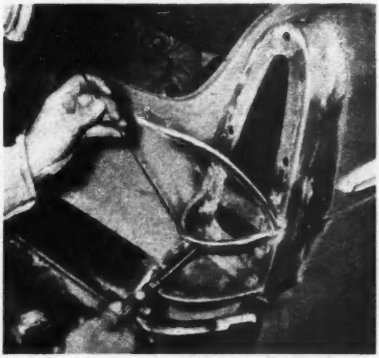
3. ½-inch hot roll round rod is formed around top and lower section of lens.



4. After rod pieces are correctly formed to lens they are braced to fender.



5. Lens mounting strap (arrow) is brazed in opening. Weld ¼-in. rod above bumper.



6. Sheet metal plate is braced to small rod positioned just above the bumper.

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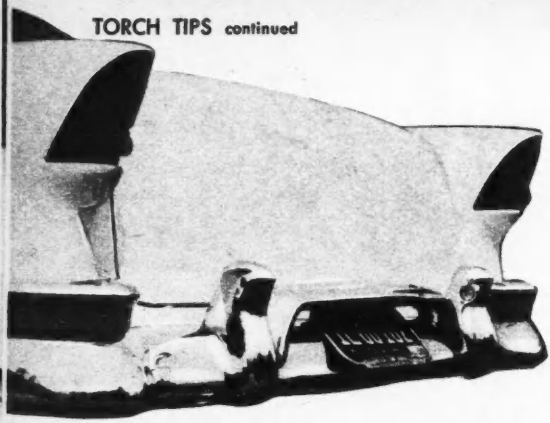

The rear fender style of the late Chevrolets ('55-'56) are very similar to the contour and shape of the '55-'56 Lincoln lenses, making the installation a simple task. For a peek of what you can expect here is a '55 Chevy with lenses installed. Round tubing, like in story, is used for edges.

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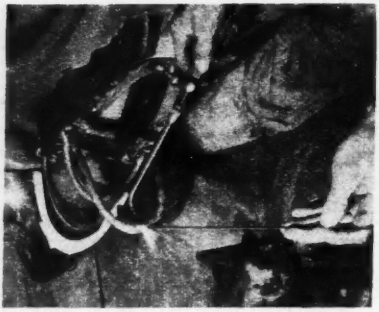
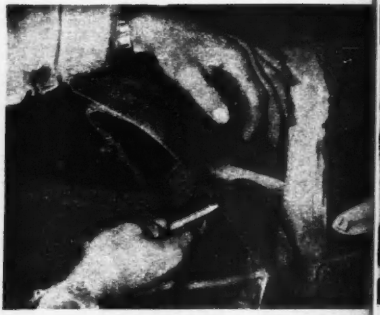


7. Another lens mounting strap is braced to the top of the upper curved rod.



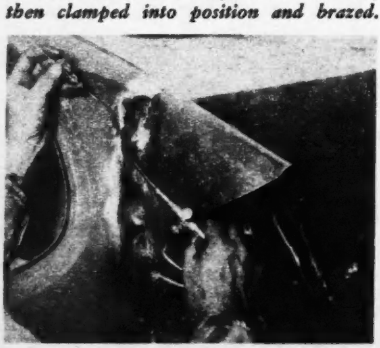
8. Make cardboard template of fender extension, then duplicate with sheet metal.

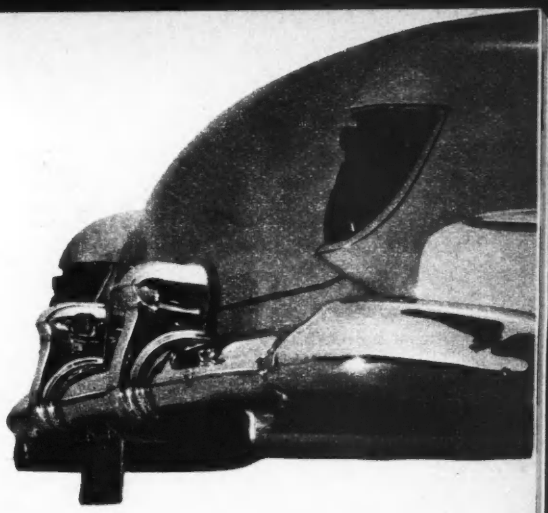
11. B the

9. Sheet metal is hand-formed over rod, then clamped into position and brazed.

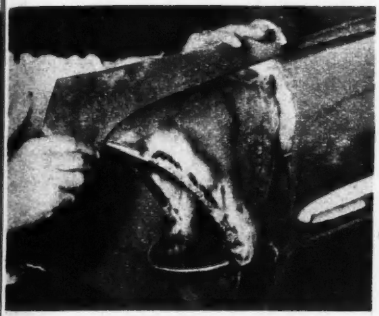
10. At the peak of the extension, several cuts are made and metal formed to rod.

13. A work





If you're the type that likes to be different, then possibly this installation will appeal to you. The Lincoln lenses were installed in this '52 Olds upside down as compared to their stock position in the Lincoln. Note stock frames were used rather than forming edges with rod tubing.

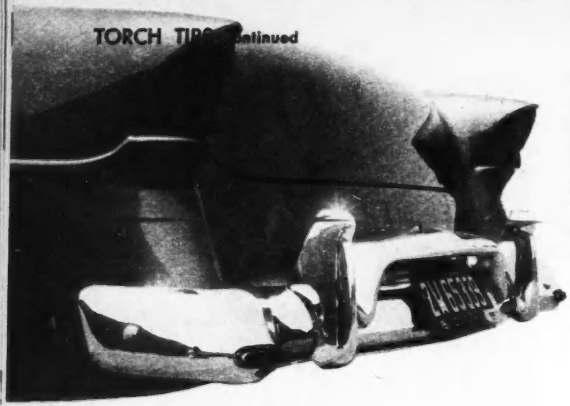


11. Before brazing the extension piece to the rod, check alignment with fender.

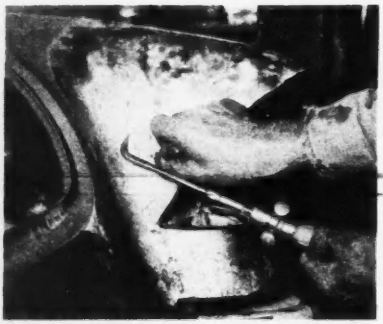
12. With upper extension section brazed solid, now fill and brace in lower piece.

13. All low spots and warped areas are worked out with file spoon and dolly.

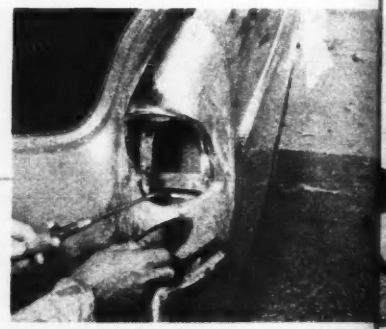
14. Grind surface with disc grinder, then thoroughly clean welds with rotary brush.



Fords of the '52 to '54 vintage are potential aspirants for the Lincoln lens treatment. Here you see the lens installed making use of round tubing again for smooth edges of taillight's cage and very cleverly blended body crease harmonizing with the stock crease of the rear fender.

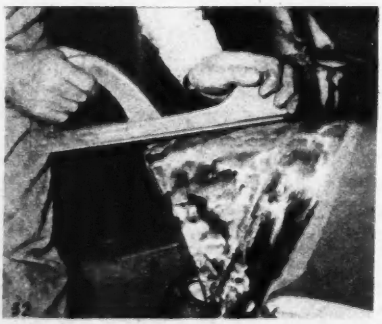


15. Heat surface moderately, then scrub on tinning compound with steel wool pad.

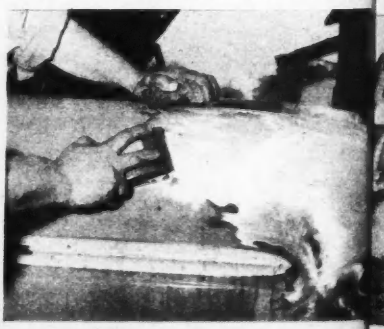


16. Melt lead onto surface, spreading it out evenly with wooden lead paddle.

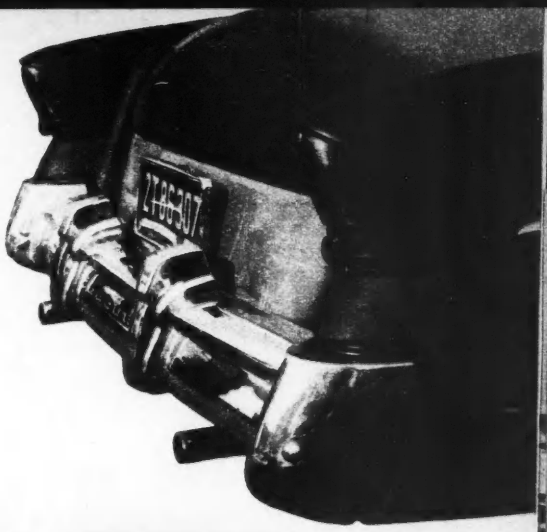
17. With leading complete, employ a vixen file, filing surface perfectly smooth.

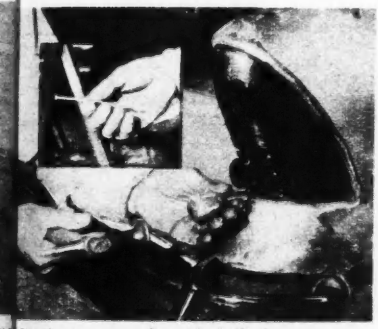


18. Final preparation for surface is to blocksand it with (80) grit sandpaper.

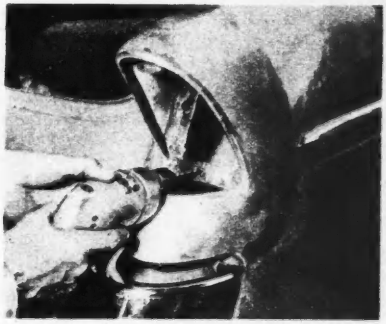


Here is the completed shot of the Lincoln taillight installation for '52-'53 Mercs covered in our step-by-step "Torch Tip" story. The main requisite for any '55-'56 Lincoln lens installation is that fenders of car possess sufficient width to accept the wide base of the large Lincoln lens.



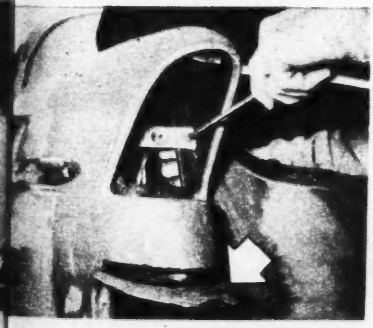


19. Center punch and drill lens for special made attachment screw (see inset).

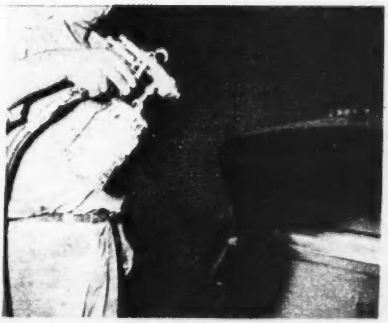


20. Inner attachment strap in the opening is drilled to accept lower lens screw.

21. Bolt up stock bumper pads (arrow). Double-circuit socket is accessory item.



22. Clean bare metal with metal prep solution, then prime, blocksand and paint.



GRAB BAG

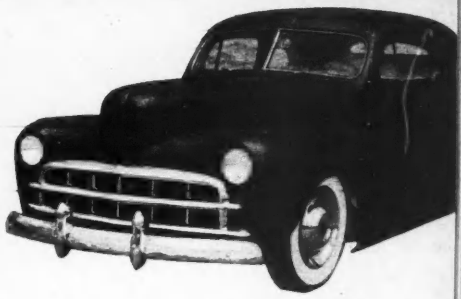
One of the easiest gimmicks in transposing the '41 Ford's grille is to fill in the center section with sheet metal. Center covering is faired into all body panels to appear as part of the stock body. Headlights are frenched using stock light rims.

AS PREDICTED EARLIER in the year we make our swing in the direction of the '41 to '48 Ford, Merc and Chev owners. Front end styling is our first assembly project, with taillights and general body modifications scheduled for the very near future. You'll find that the owners and customizers become just as cagey in restyling these earlier body styles as those that transform the appearance of their late model cars. Floating type grille bars, complete grille assembly transpositions and minimum stock grille alterations are also of prime importance to the somewhat older models. To give you some idea of what is actually possible with these earlier products here are ten variations centered around the popular Ford, Merc and Chevy body styles.

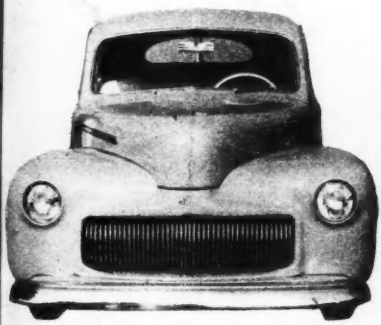
A similar bold and dramatic grille installation is this '48 Cadillac assembly that completely fills front body panels.

FORD AND MERCURY

The '55 Ford grille's checkered section is becoming a notable piece for any grille. Here it is spliced into the stock opening of this '47 Merc. Note striping.



A major transposition for '46-'48 Mercs is to install a grille assembly from a '49 Cadillac. The small end bars protruding past grille are from a '49 Chevy.

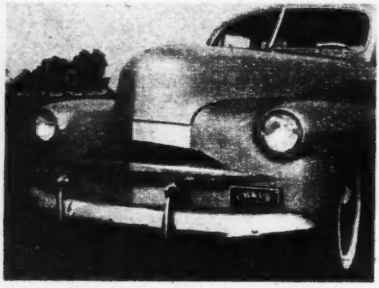


Forty-two small vertical bars take the place of the stock grille assembly in this '42 Ford. Frame has been frenched in.

Stock horizontal bars lend a customized look when top frame bar is frenched in and painted back, matching exterior color.

CONTINUED

A very unique grille for this '41 Chev was derived by frenching in a '49 Mer shell, then adapting a center bar from a late Willys in a floating manner.

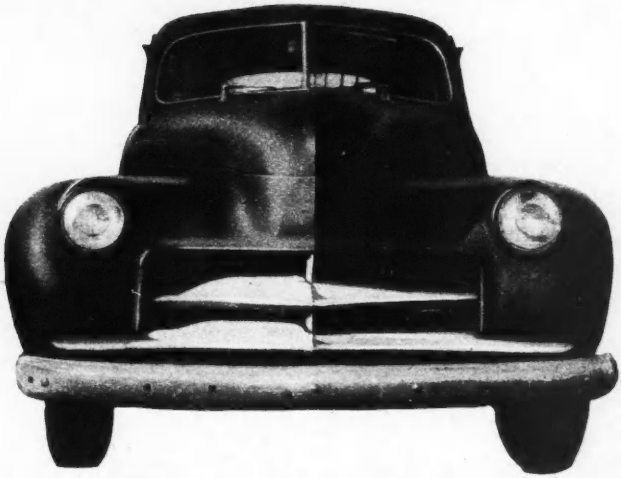


An original styling in every sense of the word is this innovation of filling in the body panels and making a special straight bar from a piece of 18-gauge sheet metal.

A stock '50 Plymouth grille assembly sans parking lights make up this grille switcheroo for a '42 Chevrolet. Headlights have been frenched using '52 Ford rims.

CHEVROLET

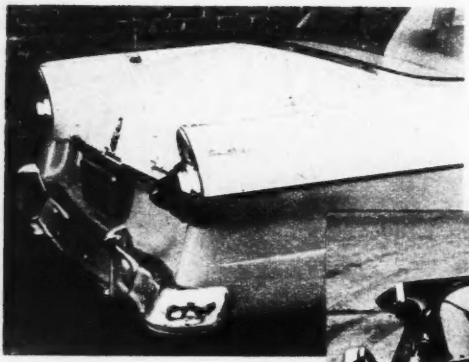
A frenched-in '49-51 Merc grille shell lends a smooth appearing grille cavity for this '48 Chevy. Shortened grille bar originates from a '53 Chev.



A complete Dodge grille was installed in this '41 Chevy. The outside frame has been frenched into the grille panels and painted matching exterior's color.

ACCESSORY OF THE MONTH — "ROCKET TAILLIGHTS"

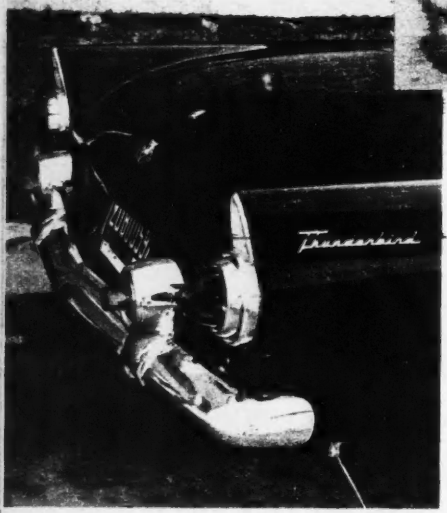
Photos by
George Barris



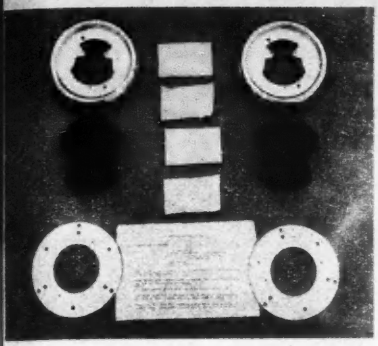
'55-'56 ford

'52-'54 ford

'55-'56 thunderbird

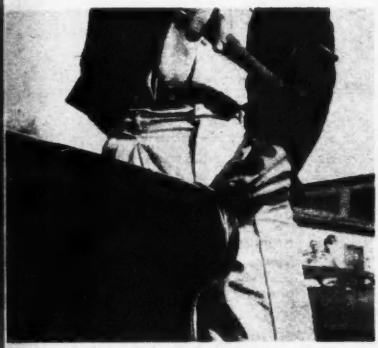


LOOKING FOR THAT easy-to-bolt-on custom taillight conversion? Just recently, California Custom Accessory Manufacturing Company assembled a taillight kit consisting of '55 Oldsmobile lenses and special chrome rims that will allow all '52 to '56 Ford owners, including T-Bird handlers, to pull a complete switch of taillight appearance in a few minutes. The conversion is strictly an un-bolt the old and bolt-on the new procedure necessitating nothing but a conventional screwdriver for the most part. The complete kit sells for $11.95 and can be purchased from Eastern Auto Accessory store in Los Angeles and other leading automotive accessory outlets.



1. Assembly consists of lenses, rims, retaining rings, screws and instructions.

2. First step is to remove lens screws and take out the inner stock reflector.



3. On '53-54 Fords, chisel rivets off that hold outer rim and bucket together.

4. With outer rim removed, screw the kit's inner retaining ring to bucket.

5. After retaining ring is secured, you attach the outside chrome rim of kit.

6. The last step consists merely of securing the kit's '55 Oldsmobile lenses.

WHAT'S YOUR PROBLEM?

BY BROACK

TECHNICAL EDITOR

MILEAGE WOES

Dear Ray:

I read every issue of your Car Craft Magazine which I think is real interesting and I too have a problem.

I have a '47 Cadillac "62" sedan with Hydra-Matic. It runs real nice and there doesn't seem to be anything wrong except that it eats gas like mad. Ten to eleven miles to the gallon. Is there anything I can do to get more gas mileage without getting involved in too much expense?

Thank you,
Charles C. O'Neill
Warren, Ohio

You have a problem which I'm afraid can't be easily solved. Driving habits are a deciding factor of mileage, engine design and size also contribute, engine condition and degree of tune must be considered and car weight is still another factor. Analyzing your letter, it would appear that your car runs good but it is not necessarily in top tune. By this I mean has it had a recent valve job, new carburetor, plugs, ignition overhaul, etc.? Does it have good compression on all cylinders? That car is pretty heavy I imagine and the engine has 346 cubic inches. The engine design is not the latest and the compression is pretty low (7.25), hence the efficiency is not up to the new engines. Then too, how much room do you use to get up to speed from a stop sign? Other than a tuneup to factory specifications, a valve job and milling of the heads a little for more compression, there aren't many ideas we can offer. The biggest determining factor (once the engine is properly tuned) is how your right foot massages the accelerator.

SEMI-HOT OLDS

Dear Ray:

I recently purchased a '49 Olds two-door sedan. The engine is slightly hot and acceleration is fine but I have heard sad tales pertaining to early Hydra-Matic. Will a later model dual-range unit replace the original without alteration?

Also the present carburetors on the car are stock '49 models. Is there a better type of carburetor that can be adapted?

Thanks for your help,
Tom Klorer
Santa Monica, Calif.

Late Hydra-Matics are far more reliable than your model and you can bolt a later unit right to your engine. Some have different tail shaft lengths which might require shortening the driveshaft which is not expensive. As for the carburetors, we have seen Stromberg two-throats of the AAV type used on '40-'48 Cadillacs used with very good results.

GETTING MORE OLDS HORSES

Dear Ray:

I would appreciate your advice on the following modifications to a 1954 Super 88 Oldsmobile. I plan to modify using a stock 1950 cam shaft and dual pipes, the Hydra-Matic per se your article on same in August 1955 issue of Car Craft, also, to use the 1955 Cadillac carburetor as per your article in the same issue. I would like my compression ratio and horsepower to at least equal the 1956 being 9.25 and the 240.

Yours truly,
J. Capozzi
Cincinnati 2, Ohio

One advantage which the '56 Olds has over your '54 is bigger ports and bigger valves. I'd suggest that you use a stock '55 Olds cam, mill the heads .070, use the .040 stock H.D. head gaskets which have been available for several years and the Cad carburetor. You'll be surprised at the increased power and smooth performance. What the horsepower will be, we have no way of knowing but if you still want more, you'll have success by opening up the valves and ports. The '56 engines breathe real well. Oh yes, don't forget to shorten the pushrods the same amount that you mill the heads plus the gasket difference.

FORDILLAC COMING UP

Dear Ray:

I am planning a '49 Fordillac and would like to have answers to these two questions.

Will a 1938 Cadillac standard shift transmission fit the overhead V8 Cadillac? Is there anybody who makes front motor mounts for such an installation?

Dick Adams
Denver, Colorado

A Cadillac standard transmission bell housing ('49-'51) will fit between the overhead valve V8 engine and '38 or later stick shift transmissions. These housings are hard to find however so Cook Machine Co., 4843 Anaheim-Telegraph Road, Los Angeles, Calif., manufactures an aluminum housing. We don't know of any ready made engine mounts for such a swap so you'll have to go through some back issues to get ideas on how to make your own.

DYNAFLOW OVERDRIVE

Dear Ray:

I have been reading your December issue. In regard to the article OVERDRIVE FOR AUTOMATIC TRANSMISSION I would like to know if putting one on my '52 Buick Dynaflow would help get a faster take-off and maybe better gasoline economy?

Thank you,
Bob Livingston
So. Glens Falls, New York

Chances are that it would help you Bob, but I'm afraid that the work involved to put an overdrive unit in your torque tube drive line would be too expensive and very complicated. I wouldn't suggest it for your car.

ZEPHYR GEARS

Dear Ray:

I have a '47 Ford business coupe with dual exhausts and dual carburetors. I plan to put on racing heads this summer.

Could you please tell me if putting in a '40 Ford transmission would increase my acceleration any more in low and second gear?

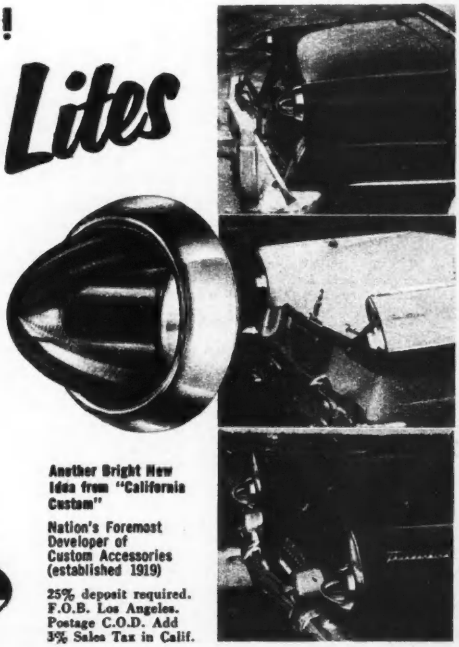
(Continued next page)

NEW!

Rocket Lites

for ALL '52-56 Fords & Thunderbirds

Now—that futuristic, bullet-like "Rocket" look for your rear fenders—quick and easy with low cost Rocket Lites! Genuine Oldsmobile "Rocket" lenses mounted on sparkling chrome, solid 1-piece rims (no screws or rivets). Simple conversion in minutes—no cutting or welding. Unconditionally guaranteed. Only $11.95 per set.



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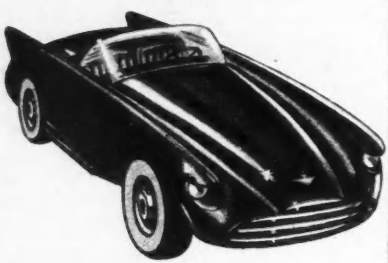

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What's Your Problem?

continued

If not, could you please tell me what transmission would?

Sincerely,
Travis Netley
Kenora, Ont., Canada

The '40 trans would be the same as yours but either can be fitted with Zephyr gears. We plan to do an article on this modification in a coming issue showing all of the parts needed. The Zephyrs permit higher speeds in low and second.

'49 ENGINE WITH FORD-O-MATIC

Dear Ray:

I bought a '51 Ford club coupe with Ford-O-Matic, and the motor is shot. I have a '49 Ford standard shift mill which I'd like to install in the '51. Is it possible for this '49 standard shift engine to be hooked to a '51 Ford-O-Matic gear box?

C. Z. Bonilla
Ft. Worth, Texas

The '49 and '51 blocks are identical and can be interchanged. Everything from the Ford-O-Matic flywheel and housing back will bolt right up to the '49 crankshaft.

OLDS-FORD, WHAT TRANS?

Dear Ray:

I have a '51 Ford with a '54 Olds engine and '51 Ford transmission.

I have been told that a '37 Cadillac floor shift gearbox will work with this Olds engine.

Could you supply some more information on this conversion?

Thank you,
Norman Smitt
South Lyon, Michigan

The Cad box will work and so will the side shift '38 and later Cad. You'll need a '51 Olds standard transmission bell housing plus the Olds clutch and pressure plate. It makes a very sturdy gear box to use and the low second gear ratios compare closely to Zephyr gears.

NEW BLOOD FOR PLYMOUTH

Dear Ray:

I have a '48 Plymouth sedan in which I plan to install a '55 V8 or a '55 Plymouth six motor. I would like to know how much work it would be to install the V8 and how much work it would be to install the six? In either case, I plan to put in an overdrive transmission.

Yours truly,
Joe Armold
Dayton, Ohio

The six should be a cinch to drop in your chassis but the V8 naturally offers much more. The V8 will pose a number of problems due to its extra width but you should be able to make the switch. Perhaps you could shift the V8 and trans a little farther forward than the trans now sits, thereby getting more room around the rear of the engine. The driveshaft could then be cut or lengthened as needed.

WILLYS V8

Dear Ray:

I have a '53 Willys hard top into which I would like to put a Chevrolet V8 engine. It has the Hurricane six in it now. The Chevy V8 seems to be the logical choice since it is the smallest of the current V8's. What kind of a transmission and rear end would be the best to use, too? The car now has an overdrive but I would like to use Hydra-Matic if possible. What do you think of the idea?

Wesley Ridgeway
Chicago, Ill.

Sounds like a real good idea and a pretty potent piece of machinery should be the end result. If you want an automatic transmission, you can use the Powerglide but if you want the Hydra-Matic for a specific reason, they are available too. They are used in many new Chevrolet pickups and trucks. You could order the necessary bell housing, flywheel and other parts from your nearest Chevrolet agency and then bolt a late model unit to the Chevy engine or you could order the whole assembly new from the dealer. If the rear end proves inadequate (which it may, especially should the Chevy be modified any) you could adapt a unit from another car such as a Chevy or Ford. These cars also have a better selection of ratios, too. As for room in the engine compartment, everything should fit pretty easily due to the Chevy's small overall dimensions. Let us know how things turn out, to

(Continued next page)

THE MOST IN GO FOR YOUR DOUGH

WHAT TO EXPECT IN HOWARD'S ¾ CAM PERFORMANCE

HOWARD'S GUARANTEED ¾ CAM FOR OHV V8's

EQUIPMENT	HP INCREASE	SPEED INCREASE ¼ MILE	TOP SPEED INCREASE	PRICE
¾ CAM ONLY	20	4	10	each $ 45.00
¾ CAM, HEADS MILLED	30	6	13	60.00
¾ CAM, HEADS MILLED, PORTED, RELIEVED & CARBURETION	70	18	30	160.00

The above prices do not include installation

ACTUAL FACTS (Examples):

CAR	STOCK SPEED	EQUIPMENT ADDED	NEW SPEED	COST
1955 CHEVROLET	78	Howard's ¾ Cam only	82.50 mph	$ 45.00
1955 CHEVROLET	78	¾ Cam, 3 carb manifold	87.70 mph	115.00
1955 MERC MONTCLAIR	76	¾ Cam only	81.40 mph	45.00
1956 OLDS	78	¾ Cam, heads milled and ported	87.50 mph	160.00

WHAT HOWARD'S CAM USERS ARE DOING

MAKE OF CAM AND NUMBER OF *1st Place Trophy Winners at the N.H.R.A. National Drags, Great Bend, Kans., 1955	
HOWARD	12
HERBERT	8
POTVIN	6
H AND C	5
WEBER	5
ISKENDERIAN	4
SMITH	2
WINFIELD	1
M.R.C.	1

*Token from official entry blanks.

Fastest Roadster—131 mph, ¼ mile—Pump Gas—Kolb
Fastest Dragster—136 mph, ¼ mile—Pump Gas—Voigt
'52 Chrys. Win.—100.60 mph ¼ mile—Pump Gas—Caldos
Fastest Dragster—152 mph, ¼ mile—Fuel—Bustle Bomb
Fastest Mod. T Road.—148 Mph, ¼ mile—Fuel
331 cu. in. Chrysler Hensley & Hedrick
Fastest Hi Boy Road. Olds—138.60 mph, ¼ mi.—Fuel
Goldberg & Shinoda
Fastest Hi Boy Road.—134 mph, ¼ mile—
'40 Ardun Ford Shinoda & Powers

DAYTONA BEACH RECORDS set during NASCAR Speed Week in 1954 and still in existence:
'37 full fendered Chevrolet, Cadillac powered. 130.40 mph on pump gas, owned by Hodges and Burrell
Second Place: '37 stock bodied Chevy, Cad powered. 129.60 mph, owned by J. A. Nickels
Single Carburetor Chrysler powered '38 stock bodied Plymouth, 127.30 on pump gas, owned by Speedy Thompson
World's Record Carroll Speedway ½ mile dirt track
George Amick, Cad powered 27 T Bebek Special, one lap, 19.90 sec.
Pat Flaherty, GMC powered 27 T Bebek Special, one lap, 20.20 sec.
Our own Experimental '55 Chevy V8 Bel Air holds records on all drag strips and holds world's record of 108 mph in ¼ mile on pump gas is equipped with our Steel Billet Cam, mushroom tappets, bored, ported, stroked and 3 carb. manifold.

EXTRA EQUIPMENT AVAILABLE:
Adjustable Push Rods for all cars using hydraulic lifters
per set $25.00
Chevrolet V8 welded ¼ stroked crank outright 67.50
Chevrolet V8 Welded stroker kits—complete outright 200.00
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We have cams that will give you up to 150 hp increase. Write for particulars to Dept. CC giving all details of engine and cam to be used. Price $45.00 exchange GUARANTEED

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City..... Zone.... State.....
Veterans: Check here ☐ for Special Veteran Training Information.

What's Your Problem?

continued

BUICK HYDRA-MATIC??

Dear Ray:

I own a '49 Buick Super with a Dynaflow transmission which is getting weak. I have a Hydra-Matic from a '50 Pontiac. What would it take to install the Hydra-Matic into my car?

A. Kwiecinski, Jr.
Evanston, Ill.

This switch could not be made short of a major modification. First you would have to machine a special adapter to hook the Hydra-Matic to the Buick, then another adapter for the pilot bushing and flywheel. Next, the Buick has a torque tube drive line which wouldn't fit the back of the Pontiac Hydra-Matic without more special made parts. Our advice is to skip the whole idea unless you're a glutton for work. If you won't give up though, some Hydra-Matics used in GMC pickups around 1953 were used with a torque tube drive line. This unit would be preferable over the '50 Pontiac box.

BENCH RACIN'

continued from page 4

power output will be reduced by the following approximate amounts: Standard exhaust system 3% (8 bhp); fan installed and operative at maximum power 2% (5½ bhp); full charging load applied to the generator 2% (5½bhp); air cleaner installed 2% (5½bhp) for most carburetor types; loss due to exhaust heat applied to intake manifold 3% (8bhp); fuel/air mixture for road conditions, usually a bit on the lean side 3% (8bhp); stock ignition advance curve for road conditions and sub-average pump gasolines 2% (5½bhp); another 3% (8bhp) may be lost by driving a power steering pump. So far, we have lost 20% or 54 brake horsepower by adding items that are nearly always found on the present-day car, but we're not through yet. Carburetor air temperatures of 100 degrees F. at a barometric pressure of 27.9 inches of mercury are not at all uncommon and if we assume these figures as averages, we must lop off another 11% or 30 bhp. Now if the manufacturer hasn't injected an "optimism factor," we

have 191 bhp available at the flywheel, a loss of 31% or 84 bhp from the original 275.

If we go further and account for transmission-driveline losses, we will find that with a synchromesh gearbox, about 15% of the remaining or available power will be lost on its way to the driving wheels. The usual run of torque converter automatic transmissions will sop up an additional 10% or so for a total loss of about 25% through the drive train. This leaves us with 143 road horsepower and from this, it's easy to drop from 10 to 20 horsepower by a bad set of spark plugs, detonation or other unfavorable occurrences. This doesn't mean that the prospective customer is being deliberately robbed or cheated of the power he is planning to buy. It points out that advertising figures are hiding behind theoretical circumstances. In other words, a good percentage of the advertised figure is "paper horsepower," and a sizeable slice is lost in driving power-consuming necessities and accessories.

Thus the advertised maximum power, and the engine speed at which it is obtained, forms no definite conclusions as to car performance and failing this, the term "horsepower" loses its definition in automotive applications.

In pursuing this type of advertising, the American automotive manufacturers have an artificial monster of their own making by the tail; each manufacturer has educated the public into "power consciousness" and if one drops the present scheme in preference to a more sensible one, he stands to lose lots of potential sales to those who persist in this fallacy.

Perhaps the most effective remedy would be to adopt the plan used by several European manufacturers. They establish *minimum* acceptable brake or road horsepower figures and performance values, using these for advertising purposes. In this way, the great majority of owners are pleasantly surprised to find that their cars perform better than factory claims. This would be a real switch in this country where the exact opposite is not only the rule but the exception too.

CARQUIZ ANSWERS

(see page 66)

1. '53 Chevrolet
2. '54 Chevrolet
3. '51 Ford
4. '53 Oldsmobile
5. '55 Cadillac
6. '54 Chevrolet

LOWER YOUR CAR!

No heating or cutting. Lyon Replacement Steering Knuckles. Available for G.M. cars '49-'56 except Chev. to '54. Also for Packard and Chrysler products. Drop 1" to 3" — welded to aircraft specs. $25 per pair.

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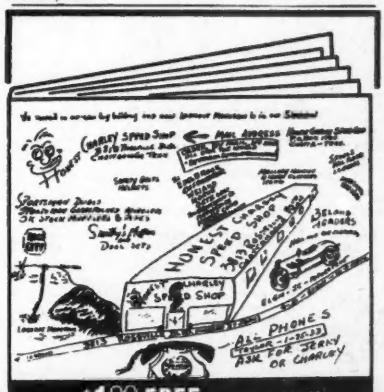

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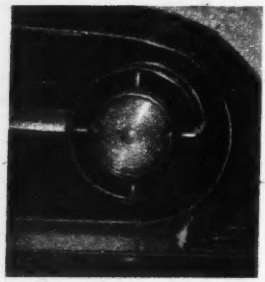
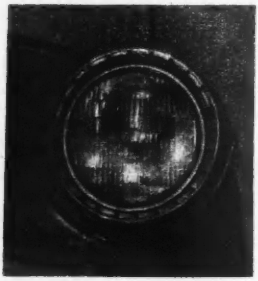
Test your car skill—identify each of these components. Each pictured component should be correctly matched with the year and make car that it is from. Score 15 points for each correct answer. A total score of 45 is passing, 60 fair, 75 good, 90 excellent.



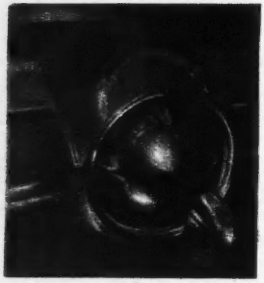
( ) '54 Chevrolet
( ) '52 Dodge
( ) '53 Chevrolet

1.



( ) '54 Ford
( ) '55 Plymouth
( ) '54 Chevrolet

2.

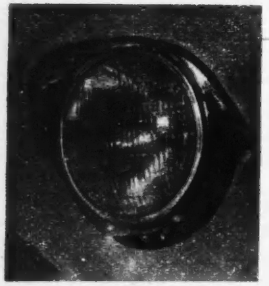


( ) '51 Ford
( ) '50 Ford
( ) '49 Ford

3.

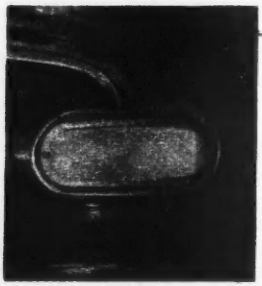
( ) '49 Oldsmobile
( ) '50 Oldsmobile
( ) '53 Oldsmobile

4.



( ) '55 Chevrolet
( ) '55 Cadillac
( ) '56 Chevrolet

5.



( ) '54 Chevrolet
( ) '52 Ford
( ) '54 Dodge

6.

(See page 65 for answers)

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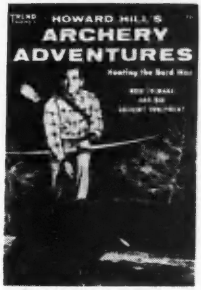

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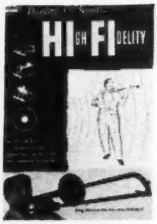

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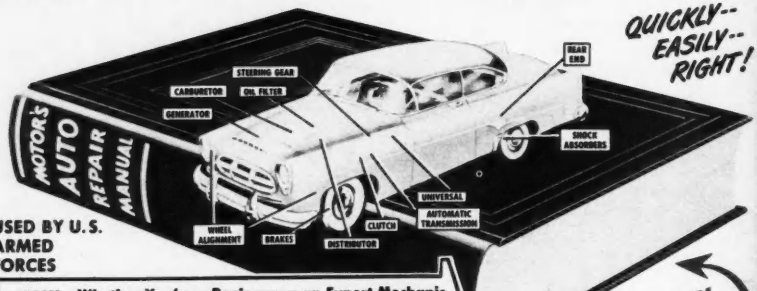

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